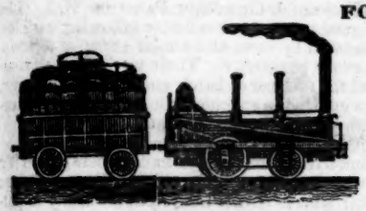
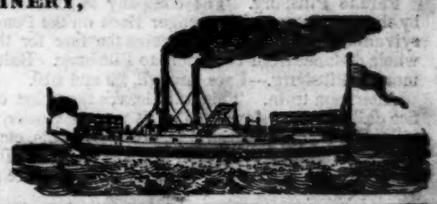
AMERICAN RAILROAD JOURNAL,

AND GENERAL ADVERTISER

FOR RAILROADS, CANALS, STEAMBOATS, MACHINERY, AND MINES.



ESTABLISHED 1831.



PUBLISHED WEEKLY, AT No. 23 CHAMBERS STREET, NEW YORK, AT FIVE DOLLARS PER ANNUM.

SECOND QUARTO SERIES, VOL. II., No. 13.] SATURDAY, MARCH 28, 1846. [WHOLE No. 509, VOL. XIX.

BOSTON AND MAINE AIL OAD. Upper Route, Boston to Portland via, Reading, Andover, Haverhill, Exeter, Dover, Great Falls, South & North Berwick, Wells, Kennebunk and Saco.

Spring Arrangement, 1846.

On and after March 2, 1846, Passenger Trains will leave daily, (Sundays excepted,) as follows:

Boston for Portland at 7½ a.m. and 2½ p.m.

Boston for Great Falls at 7½ a.m., 2½ and 3½ p.m.

Boston for Haverhill at 7½ and 11½ a.m., 2½, 3½ and 6 p.m.

Portland for Boston at 7½ a.m., and 3 p.m.

Great Falls for Boston at 6½ and 9½ a.m., and 4½ p.m.

Haverhill for Boston at 6½, 8½, and 11 a.m., and 3 and 6½ p.m.

The Depot in Boston is on Haymarket Square.

Passengers are not allowed to carry Baggage above $50 in value, and that *personal* Baggage, unless notice is given, and an extra amount paid, at the rate of the price of a Ticket for every $500 additional value. CHAS. MINOT,

February 23, 1846. 1y *Sup'r't.*

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Winter Arrangement. On and after Monday, Nov. 3, the Passenger Trains will run as follows:

For New York---night line, via Stonington.—Leaves Boston every day, but Sunday, at 4½ p.m.

Accommodation trains, leave Boston at 8 a.m. and 3½ p.m., and Providence at 8 a.m. and 3½ p.m.

Dedham trains, leave Boston at 9 a.m. 3, 5½ and 10 p.m. Leave Dedham at 8 and 10½ a.m., and 4½ and 7 p.m.

Stoughton trains, leave Boston at 12 m. and 4 p.m. Leave Stoughton at 8·20 a.m. and 2½ p.m.

All baggage at the risk of the owners theneof.

N.B. The last train to and from Boston and Dedham, will be omitted in case of a severe snow storm. W. RAYMOND LEE, *Sup't.* 31 1y

BRANCH RAILROAD and STAGES CONnecting with the Boston and Providence Railroad.

Stages connect with the Accommodation trains at the Foxboro' Station, to and from Woonsocket. At the Seekonk Station, to and from Lonsdale, R. I. via Pawtucket. At the Sharon Station, to and from Walpole, Mass. And at Dedham Village Station, to and from Medford, via Medway, Mass. At Providence, to and from Bristol, via Warren, R. I.—Taunton, New Bedford and Fall River cars run in connection with the accommodation trains.

RAILROAD IRON.—THE "MONTOUR Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO., *Agents.*

Corner of Cedar and Greenwich Sts. 48 1y

NORWICH AND WORCESTER RAILRoad. On and after May 22, 1845, Trains will leave as follows, viz:—

Accommodation Trains, daily, except Sunday. Leave Norwich, at 6 a.m., and 4½ p.m. Leave Worcester, at 10 a.m., and 4½ p.m.

☞ The morning train from Norwich, and the morning and evening trains from Worcester, connect with the Boston, Western, and Hartford and Springfield railroads.

New York Train, via Steamboat. Leaves Norwich for Worcester and Boston, every morning except Monday, upon the arrival of the boat from New York, about 2 a.m. Leaves Worcester for Norwich and New York, at 5½ p.m., daily, except Sunday.

New York Train, via Long Island Railroad.—Leaves Norwich about 3 p.m., for Worcester and Boston, daily, except Sunday. Leaves Worcester for Norwich and New York, at 7½ a.m., daily, except Sunday, and arrives in Norwich at 9½.

Freight Trains. Daily, except Sunday.

☞ Fares are less when paid for Tickets, than when paid in the cars.

EMERSON FOOTE,

32 1y Superintendent.

NEW YORK AND HARLEM RAILRoad Company.—Winter Arrangement. On and after November 3d, 1845, the cars will run as follows:

Leave City Hall for Yorkville, Harlem, Morrisiana, and Williams' Bridge,

7 30	A.M.	This train leaves 27th st.
7 30	"	Does not stop this side of Harlem.
10 30	"	Does not stop this side of Harlem.
11 30	"	
1	P.M.	Does not stop this side of Harlem.
2 30	"	
3 30	"	Does not stop this side of Harlem.
4 30	"	

Leave White Plains for City Hall—8·10, 11·10 a.m., and 1·45, 4·10 p.m.

Leave Tuckahoe for City Hall—8·20, 11·20 a.m., and 1·55, 4·20 p.m.

Leave Williams' Bridge for City Hall—8·45, 11·45 a.m. and 12·45, 2·15, 3·45, 4·45, and 5·45 p.m.

Leave Morisiana for City Hall—8, and 9·10 a.m., and 12·10, 1·10, 2·40, 4·10, 5·10, and 6·10 p.m.

The freight train will leave City Hall at 12·45 p.m. and leave White Plains at 11·10 a.m. All freight must be at the City Hall between the hours of 10·30 a.m. and 12·30 p.m. The White Plain trains will stop, after leaving the City Hall, only at the corner of Broome street and the Bowery, Vauxhall Garden and 27th street.

The City Hall and 27th street line will run every 6 minutes from 7·30 a.m. to 8 p.m.

The City Hall and 27th street night line will run every 20 minutes from 8 to 12 o'clock.

On Sundays the trains will be regulated according to the state of the weather. 1y 46

NEW YORK AND ERIE RAILROAD LINE. For Middletown, Goshen, and intermediate places. Two daily lines each way, as follows:

For passengers, the new, and commodious steamboat St. Nicholas, Capt. Alex. H. Shultz, will leave the foot of Duane street daily, [Sundays excepted,] at 7½ o'clock, A.M., and 5 o'clock, P.M., through in five hours. Returning, the cars will leave Middletown at 6, A.M., and 4½, P.M. For further particulars inquire of J. Van Rensselaer, Agent, corner of Duane and West streets,

H. C. SEYMOUR, Superintendant.

Stages run from Middletown daily, in connection with the afternoon line, to Bloomingburg, Wurtsboro, Monticello, Mt. Pleasant, Binghampton, Owego, Port Jervis, Honesdale Carbondale, etc.

On Monday, Wednesday, and Friday, to Dundaff, Montrose, Friendsville, Lenox, Brooklyn, etc., etc. 31 1y

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13 1y

DAVIS, BROOKS & Co., 30 WALL ST. Have now on hand and for sale,

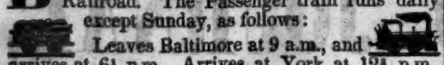
200 tons 2½ x ½ inch Flat punched Rails, Bars 18 feet each.

100 tons Heavy Edge Rails, 90 tons per mile.

30 tons 2½ x ½ inch Flat Rails.

ALSO—A STEAM PILE DRIVER, built by "Dunham & Co." which has never been used, and cost originally $5000. s20

BALTIMORE AND SUSQUEHANNA Railroad. The Passenger train runs daily except Sunday, as follows:



Leaves Baltimore at 9 a.m., and arrives at 6¼ p.m. Arrives at York at 12¾ p.m., and leaves for Columbia at 1¼ p.m. Leaves Columbia at 2 p.m., and leaves York for Baltimore at 3 p.m. Fare to York $2. Wrightsville $2 50, and Columbia $2 62½. The train connects at York with stages for Harrisburg, Gettysburg, Chambersburg, Pittsburg and York Springs.

Fare to Pittsburg. The company is authorized by the proprietors of Passenger lines on the Pennsylvania improvements, to receive the fare for the whole distance from Baltimore to Pittsburg. Baltimore to Pittsburg.—Fare through, $9 and $10.

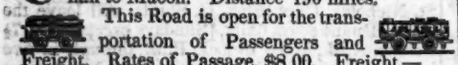
Afternoon train. This train leaves the ticket office daily, Sundays excepted, at 3½ p.m. for Cockeysville, Parkton, Green Springs, Owings' Mills, etc.

Returning, leaves Parkton at 6 and Cockeysville and Owings' Mills at 7, arriving in Baltimore at 9 o'clock a.m.

Tickets for the round trip to and from any point can be procured from the agents at the ticket offices or from the conductors in the cars. The fare when tickets are thus procured, will be 25 per cent. less, and the tickets will be good for the same and following day any passenger train.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.

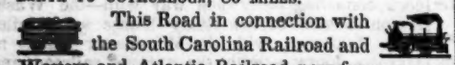


This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally...	50 cts. per hundred.
On measurement goods	13 cts. per cubic ft.
On brls. wet (except molasses and oil).....	$1 50 per barrel.
On brls. dry (except lime)...	80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery.....	40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons.....	$5 00 per hhd.
On molasses and oil.....	$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
40 Gen'l. Sup't. Transportation.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES. AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO OOTHCALOGA, 80 MILES.



This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 388 miles in length, from Charleston to Oothcaloga on the Oostenanla River, in Cass Co., Georgia.

Rates of Freight, and Passage from Augusta to Oothcaloga.

On Boxes of Hats, Bonnets, and Furniture per foot.....	16 cts.
" Dry goods, shoes, saddlery, drugs, etc., per 100 lbs.....	95 "
" Sugar, coffee, iron, hardware, etc.....	65 "
" Flour, bacon, mill machinery, grindstones, etc.	33½ "
" Molasses, per hogshead $9·50; salt per bus.	20 "
" Ploughs and cornshellers, each.....	75 "

Passengers $10·50; children under 12 years of age half price.

Passengers to Atlanta, head of Ga. Railroad, $7.

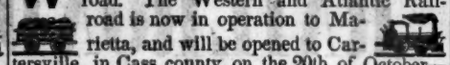
German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight may be paid at Augusta, Atlanta, or Oothcaloga.

J. EDGAR THOMSON,
Ch. Eng. and Gen. Agent.
Augusta, Oct. 21 1845. •44 1y

WHARF BOLTS. THE SUBSCRIBERS are now ready to Contract to deliver Wharf Bolts, at a reduction of 10 per cent. on last year's prices. SAM'L KIMBER & CO.
8 1t 59 North Wharves, Philadelphia.

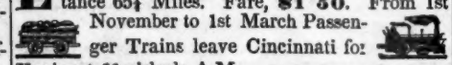
WESTERN AND ATLANTIC RAILROAD. The Western and Atlantic Railroad is now in operation to Marietta, and will be opened to Cartersville, in Cass county, on the 20th of October—and to Coosa Depot, (formerly known as Borough's,) on the 20th of November.



The passenger train will continue, as at present to connect daily (Sundays excepted) with the train from Augusta, and the stage from Griffin.

CHAS. F. M. GARNETT.
43 *Chief Engineer.*

LITTLE MIAMI RAILROAD. — DISTANCE 65½ Miles. Fare, **$1 50.** From 1st November to 1st March Passenger Trains leave Cincinnati for Xenia at 11 o'clock, A.M.



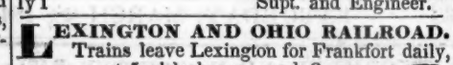
Returning, leaves Xenia at 8½ o'clock, A.M.

Freight Trains run daily, Sundays excepted.

At Xenia, Passenger Trains connect with daily lines of stages to Columbus, Wheeling, Cleveland and Sandusky city.

W. H. CLEMENT,
1y 1 Supt. and Engineer.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m.



Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and 9 a.m. from Frankfort, other hours as above.
35 1y

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee. G. A. NICOLLS,
ja45 *Reading, Pa.*

KEARNEY FIRE BRICK. F. W. BRINLEY, Manufacturer, Perth Amboy, N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms, 4 mos. from delivery of brick on board. Refer to

James P. Allaire, Peter Cooper, Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr. & Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co. & Eagle Screw Co: } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark, N. J.
Gardiner, Harrison & Co. Newark, N. J.

25,000 to 30,000 made weekly. 35 1y

DAVIS, BROOKS & CO., 30 WALL ST., have on hand for sale,

Railway Iron of different sizes—heavy and flat bars.

A Steam Pile Driver—built by "Dunham & Co."—in complete order; has never been used, and for sale a bargain. Cost originally $5,000. Also 12 Railway Passenger Cars, that have never been used, which will be sold a bargain. 8 tf

PROVIDENCE & WORCESTER R. R. *Notice to Contractors.* The time for receiving proposals has been extended to the 11th March. The route is ready for examination, and blank proposals and specifications may be had at Worcester and Providence. All proposals must be sealed, accompanied by names of references and surities, and directed to the engineer, at Providence, prior to the above date.
8 4t T. WILLIS PRATT, *Engineer.*

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
a45 Paterson, N. J., or 60 Wall street, N. York.

TO RAILROAD COMPANIES AND MANUFACTURERS of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
ja45 N. E. cor. 12th and Market sts., Philad., Pa.

THE SUBSCRIBERS, SOLE AGENTS for the sale of

Codorus, Glendon, Spring Mill, and Valley, } Pig Iron.

Have now a supply, and respectfully solicit the patronage of persons engaged in the making of Machinery, for which purpose the above makes of Pig Iron are particularly adapted.

They are also sole Agents for Watson's celebrated Fire Bricks and prepared Kaolin or Fire Clay, orders for which are promptly supplied.

SAM'L. KIMBER, & CO.,
59 North Wharves,
Jan. 14, 1846. [1y4] *Philadelphia, Pa.*

GEORGE VAIL & CO., SPEEDWELL IRON Works, Morristown, Morris Co., N. J.—Manufacturers of Railroad Machinery; Wrought Iron Tires, made from the best iron, either hammered or rolled, from 1¼ in. to 2½ in thick.—bored and turned outside if required. Railroad Companies wishing to order, will please give the exact inside diameter, or circumference, to which they wish the Tires made, and they may rely upon being served according to order, and also punctually, as a large quantity of the straight bar is kept constantly on hand.—Crank Axles, made from the best refined iron; Straight Axles, for Outside Connection Engines; Wro't. Iron Engine and Truck Frames; Railroad Jack Screws; Railroad Pumping and Sawing Machines, to be driven by the Locomotive; Stationary Steam Engines; Wro't. Iron work for Steamboats, and Shafting of any size; Grist Mill, Saw Mill and Paper Mill Machinery; Mill Gearing and Mill Wright work of all kinds; Steam Saw Mills of simple and economical construction, and very effective Iron and Brass Castings of all descriptions.
ja45 1y

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

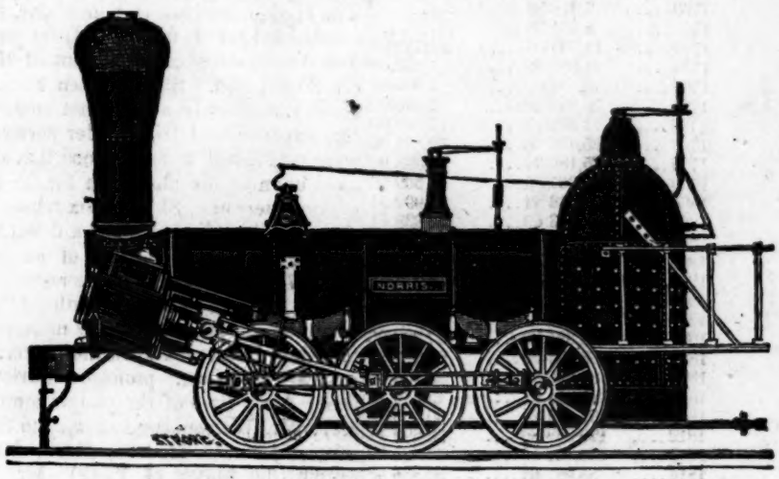
CUSHMAN'S COMPOUND IRON RAILS. etc. The Subscriber having made important improvements in the construction of rails, mode of guarding against accidents from insecure joints, etc.—respectfully offers to dispose of Company, State Rights, etc., under the privileges of *letters patent* to Railroad Companies, Iron Founders, and others interested in the works to which the same relate. Companies reconstructing their tracks now have an opportunity of *improving* their roads on terms very advantageous to the varied interests connected with their construction and operation; roads having in use flat bar rails are particularly interested, as such are permanently available by the plan.

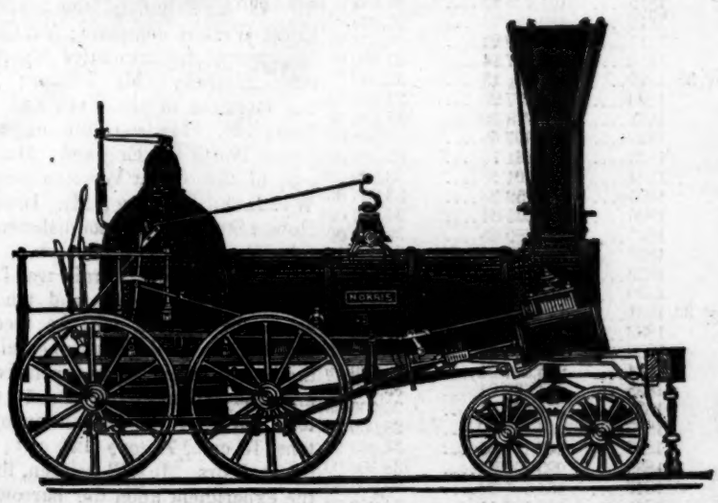
W. Mc. C. CUSHMAN, *Civil Engineer*,
Albany, N. Y.

Mr. C. also announces that Railroads, and other works pertaining to the profession, may be constructed under his advice or personal supervision. Applicaitons must be post paid.

NORRIS' LOCOMOTIVE WORKS.

BUSH HILL, PHILADELPHIA, Pennsylvania.





MANUFACTURE their Patent 6 Wheel Combined and 8 Wheel Locomotives of the following descriptions, viz:

Class	1,	15	inches	Diameter of	Cylinder,	× 20	inches	Stroke.
"	2,	14	"	"	"	× 24	"	"
"	3,	14½	"	"	"	× 20	"	"
"	4,	12½	"	"	"	× 20	"	"
"	5,	11½	"	"	"	× 20	"	"
"	6,	10½	"	"	"	× 18	"	"

With Wheels of any dimensions, with their Patent Arrangement for Variable Expansion.

Castings of all kinds made to order: and they call attention to their Chilled Wheels for the Trucks of Locomotives, Tenders and Cars.

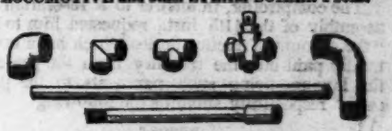
NORRIS, BROTHERS.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER Flues.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

RAILROAD IRON.—THE MARYLAND AND NEW YORK IRON AND Coal Company are now prepared to make contracts for Rails of all kinds. Address the Subscriber, at Jennon's Run, Alleghany County, Maryland.
WILLIAM YOUNG,
jy451m President.

TO IRON MASTERS.—FOR SALE.—MILL SITES in the immediate neighborhood of *Bituminous Coal* and *Iron Ore*, of the first quality, at Ralston, Lyoming Co., Pa. This is the nearest point to tide water where such coal and ore are found together, and the communication is complete with Philadelphia and Baltimore by canals and railways. The interest on the cost of water power and lot is all that will be required for many years the coal will not cost more than $1 to $1 25 at the mill sites, without any trouble on the part of the manufacturer; rich iron ore may be laid down still more cheaply at the works; and, taken together these sites offer remarkable advantages to practical manufacturers with small capital. For pamphlets, descriptive of the property, and further information, apply to Archibald McIntyre, Albany, to Archibald Robertson, Philadelphia, or to the undersigned, at No. 23 Chambers street, New York, where may be seen specimens of the coal and ore.
W. R. CASEY, *Civil Engineer*,

VALUABLE PROPERTY ON THE MILL Dam For Sale. A lot of land on Gravelly Point, so called, on the Mill Dam, in Roxbury, fronting on and east of Parker street, containing 68,497 square feet, with the following buildings thereon standing.

Main brick building, 120 feet long, by 46 ft wide, two stories high. A machine shop, 47x43 feet, with large engine, face, screw, and other lathes, suitable to do any kind of work.

Pattern shop, 35x32 feet, with lathes, work benches, &c.

Work shop, 86x35 feet, on the same floor with the pattern shop.

Forge shop, 118 feet long by 44 feet wide on the ground floor, with two large water wheels, each 16 feet long, 9 ft diameter, with all the gearing, shafts, drums, pulleys, &c., large and small trip hammers, furnaces, forges, rolling mill, with large balance wheel and a large blowing apparatus for the foundry.

Foundry, at end of main brick building, 60x45½ feet two stories high, with a shed part 45½x20 feet, containing a large air furnace, cupola, crane and corn oven.

Store house—a range of buildings for storage, etc., 200 feet long by 20 wide.

Locomotive shop, adjoining main building, fronting on Parker street, 54x25 feet.

Also—A lot of land on the canal, west side o Parker st., containiug 6000 feet, with the following buildings thereon standing:

Boiler house 50 feet long by 30 feet wide, two stories.

Blacksmith shop, 49 feet long by 20 feet wide.

For terms, apply to HENRY ANDREWS, 48 State st., or to CURTIS, LEAVENS & CO., 106 State st., Boston, or to A. & G. RALSTON & Co., Philadelphia. ja45

CYRUS ALGER & CO., South Boston Iron Company.

AUCTION DUTIES.

IN ASSEMBLY, March 35, 1845.

Report of the comptroller, in answer to a resolution of the assemby, of the 11th February, in relation to auction duties.

COMPTROLLER'S OFFICE, Albany' March 31, 1845.

TO THE ASSEMBLY,

The comptroller, in answer to a resolution of the assembly of the 11th inst., requested him to report "the amount of auction duties which have been annually paid into the treasury from the passage of the law requiring such payments to the present time," respectfully submitts the following

REPORT.

The first act for the collection of revenue on sales at auction, was passed in 1784. (Chapter 64 of session laws of that year.) This act authorizes licences to be granted to vendue masters by the mayors of the cities of New York, Albany, etc., and required the payment into the state treasury of 2¼ per cent. on the amount of sales at vendue. From 1784 to 1791. the yayments into the treasury by vendue masters averaged about $7,300 for each year, which revenue appears to have been used for the ordinary expenditures of the state government.

The sixth section of the act, chapter 27, of the laws of 1729, distinctly appropriates the duties depived from sales at auction, "for the support of the civil government of this state."

In 1792, an act was passed, (chapter 67 of the session laws of that year,) appropriating two thousand pounds annually from auction duties, to the "society of the hospital in the city of New York."

In 1795, an act was passed, (chapter 37 of the session laws,) which appropriates four thousand pounds annually to the society of the hospital in the city of New York, and repeals the appropriation of the preceding year; and also reduces the duties to 2 per cent.

In 1798, an act wes passed (chapter 89) which adds one per cent. to the duties on sales at auction, and appropriates the sum received on account of this additional duty to the support of foreign poor in the city of New York.

In 1801, an act was passed (chapter 116) which appropriates one-third of the amount received on sales at auction in the city of New York, for the support of foreign poor in that city, and it appropriates the residue of the duties collected there, and the whole received in other parts of the state, "for the support of the civil government of this state."

In 1817, an act was passed for constructing the Erie ond Champlain canals, rarious devenues were set apart and pledged for the payment of the money borrowed, and in the 5th section of the act referred to, it was provided that "all the duties upon sales at auction, after deducting thereout twenty-three thousand five hundred dollars annually appropriated to the hospital, the economical school, and the orphan asylum society, and ten thousand dollars hereby appropriated annually for the support of foreign poor in the city of New York," should belong to the canal fund.

Tnese sums were appropriated as follows:

To the hospital	$22,500
To the economical school	500
To the orrhan asylum	500
For the support of foreign poor	10,000
	$33,500

The economical school has not been in oyeration for many years, and the sum of $600 which was originally paid for the use of this school, is now paid to the Prince street orphan asylum, under the act chapter 29, of the laws of 1834.

A statement is annexed, which shows the sums paid out of the treasury for auction duties in each year, from 1784 to 1844, and also the sums paid out of the treasury for the same period for the use of the hospital, foreign poor, and other objects.

The total sum paid into the treasury on account of sales at auction for 60 years, is	$7,660,291 88
Total paid from the treasury for the use of hospitals, etc	1,814,774 75
Retained i the treasury	$5,848,517 13

Of the amount thus retained in the treasury, the sum of $3,592,039 04 has been appropriated to the construction of the Erie and Champlain canals, and the sum of $2,256,478 08 has been used for the ordinary support of the government.

Respectfully submitted,
A. C. FLAGG.

STATEMENT

Of the amount of duties paid into the treasury during each fiscal year, from 1784 to 1844, inclusive, and of the amount charged upon such duties and paid from the treasury during the same time for the support of the New York hospital, foreign poor, economical school, and orphan asylum in the city of New York, viz:

Year ending.	Amount paid into the Treasury.	Amount paid to hospital, etc.
Dec. 31, 1784	$6,356 46	.....
1785	11,771 77	.....
1786	6,473 99	.....
1787	6,908 84	.....
1788	5,356 36	.....
1789	6,674 79	.....
1790	7,318 39	.....
1791	8,051 38	.....
1792	14,605 08	.....
1793	21.898 38	$3,750 00
1794	12,594 02	1,250 00
1795	38,890 30	5,000 00
1796	14,801 13	12,500 00
1797	25,135 26	12,500 00
1798	35,187 96	13, 74 00
1799	47,907 95	15,098 00
1800	55,942 74	29,509 46
1801	78,783 69	30,992 91
1802	66,0c0 24	38,838 61
1803	52,776 14	34,263 49
1804	56,322 69	27,599 78
1805	57,614 44	29,015 69
1806	64,879 04	29,909 21
1807	73,621 80	33,955 88
1809	66,474 99	37,392 00
1809	89,636 08	28,527 37
1810	127,774 01	38,303 14
1811	107,439 25	45,346 19
1812	126,962 80	60,488 23
1813	136,122 18	53,699 12
1814	86,067 67	69,022 32
1815	191,475 23	50,336 83
1816	159,450 01	49,455 9
1817	203,149 27	97,205 88
1818	179,967 14	70,554 79
Nov. 30. 1819	144,44₇ 13	33,500 00
1820	156,477 20	33,500 00
1821	152,778 02	33,500 00
1822	181,967 65	33,500 00
1823	202,631 16	36,500 00
1824	233,101 53	33,500 00
1825	253,452 38	33,500 00
1826	234,237 84	33,000 00
1827	298,289 65	30,500 00
1828	275,187 40	33,000 00
1829	242,552 54	35,000 00
1830	218,513 66	38,000 00
Sept. 30, 1831	178,276 66	38,000 00
1832	250,424 02	22,375 00
1833	212,014 23	35,000 00
1834	205,337 04	31,000 00
1835	244,537 24	36,000 00
1836	274,903 81	33,000 00
1837	214,458 62	36,000 00
1838	142,102 35	28,000 00
1839	225,401 84	34,000 00
1840	164,621 38	38,500 00
1841	206,702 11	30,500 00
1842	200,284 52	34,000 00
1843	161,123 02	27,875 00
1844	174,749 36	59,125 00
	$7,660,291 88	33,500 00
		$1,811,774 75

☞ ABRAHAM G. THOMPSON, Esq., for many years at the head of one of the most extensive auction houses in this city, has done much for its prosperity, in obtaining from the legislature an act reducing the then prohibitory duties on sales at auction. The auctioneers should present him a pair of silver pitchers for his laudable and highly commendable efforts in the premises.—*Examiner.*

The Battle of the Gauges.

(Continued from page 187.)

The following account of the experiments made on the narrow gauge are from the London Morning Herald, though we find them in the Railway Record of January 3d.

The broad and narrow gauge engines—experiments for testing their tractive capacities.

The experiments for testing the tractive capacity of the narrow-gauge engine commenced on Tuesday on the Great North of England line, between York and Darlington. The distance run was that between the first and forty-fourth mile-posts—viz., 43 miles. This piece of railway has been selected in consequence of its being nearly a direct line throughout its whole course, and from the very easy character of its gradients. The engine selected is a new one, recently constructed (as I understand) at the celebrated locomotive establishment of Mr. Robert Stephenson. She has been running for about a week only, and has not made any except experimental trips. Her performances were considered to be so good that she was fixed upon as the champion for the narrow-gauge interests. She is a six-wheel engine, with outside cylinders; has a 6 feet 6 inches driving wheel, and the top of her boiler is about 7 feet 4 inches from the rails.

The hour fixed for the starting of the train was nine o'clock, and a few minutes before that time I observed upon the platform of the railway terminus, professor Barlow, professor Airey (two of the gauge commissioners); Mr. Watson, the secretary to the commission; Mr. G. Hudson, M.P.; Mr. Richardson (the Mayor of York); Mr. Brunel, Mr. C. A. Saunders, the secretary of the Great Western company; Mr. Gooch, superintendent of the locomotive department in the same company; Mr. Bidder; Mr. Cabry, the engineer of the York and North Midland; Mr. Harrison, the engineer of the Great North of England; Mr. W. Stevenson, of the Great Western company; Mr. Wyndham Harding; Mr. Berkley, of Mr. Robert Stephenson's establishment; and several other scientific gentlemen.

The weight of the train was 50 tons only, and that of the engine and tender together about 28 tons. It will be recollected that the weights of the experimental trains upon the broad gauge were (exclusive of engine and tender) fixed at 80 tons, 70 tons, and 60 tons, but that the actual tonnages were 81 tons 13 cwt., 71 tons 12¾ cwt., and 61 tons 0 cwt. 2 qrs. It will be seen, therefore, that the experiment upon the narrow-gauge line, the particulars of which I am about to detail, has no parallel working upon the broad-gauge railway; and that whatever the value of the result, it can be recognized only when the broad-gauge engine shall have taken the same reduced tonnage for the same distance.

The broad-gauge party appeared to be considerably surprised at the reduction of ten tons below the lowest of the weights taken by the broad-gauge engine, and Mr. Brunel Mr. Saunders, and Mr. Gooch stated that the result of the working of such a train, to th

running of which, however, they said they did not object, could not have the slightest reference to any one of the experiments tried between Paddington and Swindon. It is presumed that the determination to take 50 tons was come to without consulting the commissioners, because I heard professor Barlow himself take an objection to the reduction of weight. Mr. Brunel then observed that his (Mr. Brunel's, original proposition was, that the experimental trains should be respectively 90 tons, 80 tons, and 70 tons, but that, to gratify the desire of the narrow-gauge interests, he had agreed to run trains of 80, 70, and 60 tons. Professor Barlow repeated his objection, and said he thought it not fair to run a 50-tons train, when the lowest of the tonnages taken by the broad-gauge locomotive was 60 tons. Mr. Bidder said the object of the advocates of the narrow-gauge was to show the capacity of their engines, as well with a 50-tons as with a 60, 70, and 80 tons train, and that they should most assuredly take experimental trips with those tonnages. After this conversational discussion, which was carried on in the most perfect good feeling, the 50-tons train, composed of eight carriages, loaded with pig lead to make up the weight, was declared to be in readiness to start.

At 9h. 7m. 15s. the train started from the station in order to proceed to the first mile post, from which it had been understood the experiment was to commence. Upon the Great Western line the experimental trains left the Paddington terminus, and were brought to a stand-still at the first mile post. This, however, was not the case this morning. I was waiting for the train to stop before I noted the time of starting from the first mile post; but finding the engine was getting up her speed, I looked down the line, and found she had gone past the post without stopping, and was doing her experimental work without warning. I am, therefore, obliged to take the time of passing the first mile post from one of the gentlemen who accompanied the train, and the time of whose watch I have reduced to that of my own. The train passed the

	h.	m.	s.	Time each mile. m.	s.
1st mile post at	9	12	17	0	0
2 ..	9	14	25	2	8
3 ..	9	15	45	1	20
4 ..	9	17	0	1	15
5 ..	9	18	12	1	12
6 ..	9	19	20	1	8
7 ..	9	20	30	1	10
8 ..	9	21	40	1	10
9 ..	9	28	2	1	22
10 ..	9	24	32	1	30
11 ..	9	26	15	1	43
12 ..	9	28	8	1	53
13 ..	9	30	4	1	56
14 ..	9	32	6	2	2
15 ..	9	34	0	1	54
16 ..	9	35	45	1	45
17 ..	9	37	22	1	37
18 ..	9	38	50	1	28
19 ..	9	40	25	1	35
20 ..	9	42	20	1	55
21 ..	9	44	45	2	22
22 ..	9	46	25	1	40
23 ..	9	47	50	1	25
24 ..	9	49	35	1	45
25 ..	9	51	30	1	55
26 ..	9	53	20	1	50
27 ..	9	55	15	1	55
28 ..	9	57	15	2	0
29 ..	9	59	12	1	57
30 ..	10	1	28	2	16
31 ..	10	3	30	2	2
32 ..	10	5	15	1	45
33 ..	10	6	50	1	35
34 ..	10	8	44	1	54
35 ..	11	10	35	1	51
36 ..	10	12	35	2	0
37 ..	10	14	56	2	21
38 ..	10	17	18	2	22
39 ..	10	19	0	1	42
40 ..	10	20	20	1	20
41 ..	10	21	34	1	14
42 ..	10	22	49	1	15
43 ..	10	24	8	1	19
44 ..	10	26	10	2	2

The train stopped at the Darlington station at 10h. 27m. 20s. It will here be seen that the 43 miles were performed in 1h. 13m. 53s., or at the rate of nearly 35 miles per hour. The maximum speed (between the 5th and 6th mile-posts) was nearly 53 miles per hour, and the minimum rate rather more than 25 miles per hour. The average speed of the 80-tons train (exclusive of the engine and tender) upon the broad gauge lines was 47·5 miles per hour, and the maximum speed 55 miles per hour.

There was, however, one thing greatly against the narrow-gauge experiment of this morning, viz., the wind. When the train left the York station, the weather was not at all unfavorable; the horizon promised rain, but very little wind was stirring. Up to the 10th mile post, the result promised to be pretty good; the last three miles had been done at about 52 miles per hour, and the narrow-guage party calculated that the 43 miles would be got over in about 52 or 54 minutes. On reaching the 10th mile-post a heavy westerly wind came suddenly down upon the carriages, taking them obliquely in the direction the train was going. The effect was felt in less than a minute—the wind reduced the speed from 50 to nearly 30 miles per hour. There could be no doubt about the cause of retardation, because, from the 10th mile-post the progress of the train was slow or fast in proportion to the length of embankment, open country, or cutting. Immediately the engine entered a cutting, the increase of velocity was most sensibly apparent. If she entered a cutting of a couple of furlongs in length, at 30 miles per hour, she dashed out of it at 38 or 40, and before another couple of furlongs had been run upon an embankment exposed to the gale, the speed became reduced again to 30 miles per hour.

After waiting at the Darlington station about an hour, Mr. Bidder proposed to return with four carriages only, for the purpose, as it was stated by Mr. Berkley, of getting a 400 tons goods train in readiness for an experiment. Mr. Brunel asked if any preparations had been made to get such a train together, and upon being answered in the negative, he said it was far to late in the day to think of making such a trip—professor Barlow objected altogether to return in a train of four carriages, and that number of carriages which had been detached from the train were again put on, and the return trip commenced at 12h. 8m. 15s. The train reached the first mile-post from the York station at 1h. 32m. 8s., performing the 43 miles, therefore, in 1 hour, 24 minutes, and 53 seconds, or at a speed of about 30 miles per hour. A stoppage took place in this trip (I believe to take in water,) by which two or three minutes were lost.

If the weather does not improve no experiment will take place to-morrow.

The experiments under the commission, were resumed on Wednesday. The experiments yesterday with the 50-tons trains were considered so inconclusive, in consequence of the high wind which prevailed, that it was determined to repeat them to-day. The hour appointed for leaving the station was nine o'clock. The train left at 9h. 2m. 10s., accompanied by professor Barlow, professor Airy, Mr. Watson, Mr. Brunel, Mr. Saunders, Mr. Gooch, Mr. Bidder, Mr. Wyndham Harding, Mr. Berkley, Mr. Cabry, and about a dozen other gentlemen. The day was a favorable one. There was a slight breeze to the north, and the rails were in a very fair condition. Contrary to the practice observed in the experimental trips upon the Great Western railway, the train did not stop at the first mile post, and commence its experimental trip from a state of rest. Instead of doing this, it passed the post at the rate of about 8 miles per hour. The following is the working of the train for the 43 miles, that is, measuring from the first mile-post out of the York station, to the mile-post on the York side of the Darlingtons tation:—

	h.	m.	s.	Time each mile in seconds.
Passed 1st mile post at	9	6	30	—
2	9	8	30	120
3	9	10	0	90
4	9	11	13	73
5	9	12	25	72
6	9	13	30	65
7	9	14	36	66
8	9	15	44	68
9	9	16	55	75
10	9	18	5	70
11	9	19	15	70
12	9	20	28	73
13	9	21	39	71
14	9	22	49	70
15	9	23	59	70
16	2	25	8	69
17	9	26	18	70
18	9	27	28	70
19	9	28	38	70
20	9	29	48	70
21	9	30	59	71
22	9	32	8	69
23	9	33	20	72
24	9	34	38	78
25	9	35	48	70
26	9	37	0	72
27	9	38	11	71
28	9	39	25	74
29	9	40	36	71
30	9	41	48	72
31	9	42	58	70
32	9	44	5	67
33	9	45	18	73
34	9	46	30	72
35	9	47	43	73
36	9	49	5	82
37	9	50	24	79
38	9	51	44	80
39	0	0	0	—
40	9	54	12	148
41	9	55	30	78
42	9	56	48	78
43	9	58	10	82
44	9	59	58	180

The time occupied in performing the distance yesterday was 1h. 13m. 43s., or at the

rate of something less than 35 miles per hour It will be seen that to-day the same distance was accomplished in 53m. 28s., or rather less than 48 miles per hour, the maximum speed (between the 5th and 6th mile-posts) being nearly 55 miles per hour. The wind of yesterday may therefore be considered to have offered a resistance equal to above 13 miles per hour.

The return train with the 50 tons left Darlington station at 11h. 21m. 0s., and passed the first mile post at 11h. 22m. 18s. The following is the working of the engine:—

	h.	m.	s.	
Passed 1st mile post at	11	22	18	—
2	11	24	58	[illegible]
3	11	26	28	[illegible]
4	11	27	53	83
5	11	29	29	96
6	11	30	42	83
7	11	31	58	76
8	11	33	10	72
9	11	34	23	73
10	11	35	42	79
11	11	36	55	73
12	11	37	12	77
13	11	38	29	77
14	0	0	0	—
15	11	41	50	181
16	11	43	8	78
17	11	44	22	74
18	11	45	35	73
19	11	46	42	67
20	11	47	48	66
21	11	49	0	7
22	11	50	11	71
23	11	51	28	77
24	11	52	43	75
25	11	53	56	73
26	11	55	8	72
27	11	56	19	71
28	11	57	31	72
29	11	58	41	70
30	11	59	51	70
31	12	1	5	74
32	0	0	0	—
33	12	3	26	141
34	12	4	32	66
35	12	5	48	76
36	12	6	59	71
37	12	8	11	72
38	12	9	23	72
39	12	10	33	70
40	12	11	43	70
41	12	12	53	70
42	12	14	2	69
43	12	15	12	70
44	12	16	24	72

The duration of this trip was 54 minutes 6 seconds, which shows a speed of upwards of 47 1-2 miles per hour. The maximum rate (between the 18th and 19th mile-posts) was somewhat above 54 miles per hour.

The next experimental trip was to have been with a 60-tons train; but the weather was considered so favorable for the time of year that Mr. Bidder proposed to take a train of 80 tons. This was agreed to, and at a few minutes after two o'clock several other passenger carriages were added, and the train proceeded towards the first mile-post. To make this interesting trail of the new narrow-guage engines' tractive power with a heavy passenger train. I am about to give a table showing the working of the broad and narrow gauge engines with the 80-tons train, and it is, therefore, right I should state that the broad-gauge engine made her trip with a pretty good head wind against her, and that the narrow-gauge engine had a light breeze with her during the whole of the journey. It is also necessary to state that the broad-gauge engine commenced her working from a state of rest, and that the narrow-gauge engine passed, at the rate of about 12 miles per hour, the first mile-post, from which I reckon the time of her performance. This will explain the reason of the apparent loss of time by the broad-gauge engine for the first 4 miles. It will be recollected that the distance gone over by the broad-gauge train was 52 miles. I have taken the first 42, and then the working of the 52nd mile, in order to get performances as nearly parallel as possible.

		Narrow Gauge.	Broad Gauge.	Narrow Guage.	
		Time each Mile in Seconds	Time each mile in Seconds	Time lost in Seconds	Time gained in Seconds
Passed the first mile post at.....	h. m. s. 2 9 38				
2	2 11 48	130	122	8	0
3	2 13 18	90	118	0	18
4	2 14 34	76	90	0	14
5	2 15 52	78	80	0	2
6	2 17 11	79	74	5	0
7	2 18 25	74	75	0	1
8	2 19 40	75	68	7	0
9	2 20 52	72	68	4	0
10	2 22 5	73	74	0	1
11	2 23 18	73	73	0	0
12	2 24 30	72	70	2	0
13	2 25 48	78	65	13	0
14	2 27 8	80	65	15	0
15	2 28 26	78	66	12	0
16	2 29 40	74	68	6	0
17	2 30 54	74	67	11	0
18	2 32 12	78	67	11	0
19	2 33 34	82	68	14	0
20	2 35 0	86	68	18	0
21	2 36 22	82	69	13	0
22	2 37 44	82	69	13	0
23	2 39 0	76	69	7	0
24	2 40 18	78	69	8	0
25	2 41 40	82	72	10	0
26	2 43 0	80	71	9	0
27	2 44 20	80	71	9	0
28	2 45 34	74	71	3	0
29	2 46 50	76	70	6	0
30	2 48 14	84	69	15	0
31	2 49 32	78	71	7	0
32	2 50 50	78	74	4	0
33	2 52 8	78	73	5	0
34	2 53 25	77	71	6	0
35	2 54 42	77	70	7	0
36	2 56 0	78	70	8	0
37	2 57 28	88	70	18	0
38	2 59 0	92	71	21	0
39	3 0 30	90	71	19	0
40	3 1 55	85	70	15	0
41	3 3 18	83	70	13	0
42	3 4 42	84	72	12	0
43	3 4 42	84	73	11	0
44	3 8 8	118	102	16	0

This shows that in the 43 miles the narrow-gauge lost 397 seconds and gained 26 seconds only, the loss, in fact, being 5 minutes 53 seconds.

From this table it is seen, that with good weather to day, the same engine upon the same line, and going over the same gradients (for curves there are none,) took 80 tons 43 miles in 58 minutes 30 seconds, or in 15 minutes 23 seconds less than she took 50 tons yesterday with a side wind against her.

The average speed upon the narrow-gauge line with the 80 tons, will be seen to have been about 44 miles per hour, with a maximum speed of 50 miles per hour, while the average speed of the broad gauge was 47 1-2 miles per hour, with a maximum speed of 55 miles per hour.

The 80-tons train was not brought back again to York by the same engine.

I have not heard what experiments will be tried to-morrow.

Railway Tunnel under London, two miles in length.

The following description, from the "Railway Telegraph," of the proposed approach to the central terminus of the London and Birmingham railway way, on the ground of the old Fleet street prison yard, will be read with interest. It shows that the English railway proprietors do not mind trifles when they have an important object in view.

LONDON AND BIRMINGHAM RAILWAY TUNNEL UNDER LONDON.

The stupendous undertaking, projected by the London and Birmingham railway company, under the directiou of their talented engineer, Mr. Robert Stephenson, for reaching their proposed central station in Farringdon street (the site of the late Fleet prison) by means of a tunnel under London, cannot have failed to excite the attention, not merely of the scientific and railway world, but particularly the notice of those who, in a commercial point of view, or by being residents on the proposed line, are likely to be benefitted thereby, or are interested therein. The importance of such an undertaking has induced us to endeavor to lay before the public a correct description of this monster tunnel, which we are enabled to perform in detail, having had in the most courteous manner a copy of the plans and sections, prepared for the ensuing session of parliament by Mr. Stephenson, placed at our disposal.

The works of this magnificent undertaking are proposed to commence at the Camden-town station of the Birmingham railway, crossing the Hampstead road, by means of two arches of 70 feet span, and 16 feet in height, the junction with the London and Birmingham requiring no alteration of level. From the Hampstead road to the line is proposed to pass (by means of a viaduct varying from 18 to 21 feet in height, and at an inclination of 1 in 97) over Grange street, Leybourne road, to the Kentish-town road, and from thence over the Camden-road, Brecknock place, Great College street, and the Camden road villas, at an inclination of 1 in 134, and at a height varying between 20 and 16 1-2 feet. After passing the King's-road, the viaduct is to be succeeded by an embankment at an inclination of 1 in 60, and then by a cutting to the western side of Maiden lane, and to the north of Randall's tile-kilns. At this point the proposed tunnel commences, being at a distance of 1 mile 163 feet from the Camden station, at a depth of 37 and a width of 30 feet. The tunnel takes its course under Carlton gardens and William street, Caledonian road, at a depth varying from 38 to 45, and thence under the Caledonian road at a depth of 54 feet. From this point the tunnel is proposed to proceed at a gradually increasing depth under the tunnel of the Regent's Canal, near Half Moon crescent, where the depth is 90 feet. The direction of the tunnel is then under Penton street, Chapel street and White Lion street, Pentonville, the depth being no less than 101 feet, and the inclination being 1 in 1,062. From hence the tunnel passes under the City-road, at Claremont terrace, in the rear of St. Mark's church, Myddelton square, at a depth of 87 feet, gradually decreasing until the tunnel arrives at the New River Head, under which it is proposed to be carried at a depth of 68 feet. A gradual decrease in depth then takes place. Under Myddelton street, Clerkenwell, it is 51 feet; Gloucester street, 48 feet; Skinner street,

Clerkenwell, 43 feet; Corporation row, Seckford street and Suffolk street, each at a depth of 42 feet; Aylesbury street, (leading to the Sessions House), 41 feet; and St. John's square, 38 feet. From this point the tunnel passes under the closely populated districts of St. Sepulchre Without, at depths gradually decreasing until it reaches Cow cross, where it will be only 25 feet below the surface.—Here it is proposed to carry the tunnel at a depth varying from 28 to 33 feet, from Greenhill's rents to West Smithfield, at an inclination of 1 in 1,062. Passing under the Greyhound Inn-yard at a depth of 31 feet, the tunnel is proposed to reach Hosier lane at 28 feet, Cock lane at 29 feet, and the Saracen's Head Inn-yard at a similar depth. Under Skinner street, Snowhill, the depth will be 28 feet, and the tunnel will terminate at Angel court, on the southern side of Skinner street, at a depth of 24 feet. A small cutting will here commence, passing through Green Arbour court, at a depth of 19 feet; Bishop's court, 14 feet; Seacoal lane, 11 feet; Fleet lane, 5 feet; and thence into the city terminus, Fleet prison yard, where the line will emerge on a level.

The entire length of the intended extension will be 3 miles 4 1-2 chains, of which the tunnel will occupy 2 miles. It is a singular fact that the tunnel will pass under only one main sewer.

The London and Birmingham company propose taking powers for carrying out a deviation line, if found necessary, and to take such property as may be required for that purpose. The plans, which are engraved in a very elaborate style by Messrs. Dixon and Ross, of the Hempstead road, indicate the various houses which the company propose to purchase altogether, or to afford compensation for, if injuriously affected by the projected line.

For the convenience of the grand city terminus, the company propose to take powers for obtaining the whole range of houses on the south side of Skinner street, extending from the Old Bailey on the east to Turnagain lane on the west, and including from that point to the Fleet prison, the eastern side of Farringdon street, and passing to the rear of the prison yard, extending again to the Old Bailey, and including a portion of Prujean square, thus occupying the site of all the intermediate houses. One grand and desirable object the London and Birmingham company have in view in taking this group of houses, is to forward the improvements contemplated by the corporation of the city of London.

Another important advantage which will result from this plan of the London and Birmingham company, is that the inhabitants of the metropolis will be saved the inconvenience and noise of the ponderous wagons laden with merchandize, which at present perambulate the streets day and night, to the detriment of the paving, in passing to and from the city and the goods station of the railway at Camden town.

Upon the whole no one who views this great undertaking in a dispassionate manner, can be of any other opinion than that it is one calculated to afford convenience as well as comfort to the public generally; and from the high standing of the company, and the scientific reputation of their engineer, there can be but little doubt the project will meet with the sanction of parliament.

Too much praise cannot be awarded to those who have undertaken the herculean task of preparing the magnificent plans and sections which we have just described; nor can we do otherwise than express our admiration at the superb way in which they are engraved, being decidedly superior to any done for the various proposed lines of railway about to be submitted to parliament this session.

U. S. Mails and the Railroads.

There has been much complaint, and justly so we now learn, during the past winter, in consequence of the delays of the mails between New York and Albany.

Our business men have generally felt the inconvenience of these delays; few of them, however, have known the cause, and many have of course placed it at the door of the *railroad* companies. We have more than once heard complaints made that "the railroads would not carry the mails without an exorbitant compensation." We recollect to have heard it said, soon after the close of navigation, that the "Housatonic and the Western railroad would not carry the mail between New York and Albany." It seems, however, that there would have been no difficulty, and no complaints, if these companies would have continued to carry the mail without compensation, and even without being requested to carry it, as they did, for nearly a fortnight, rather than to discommode the business community.

The causes of complaint against railroads are frequently based upon no better foundation than those made in this case, and yet these were deemed grave enough to be made the subject of inquiry by the legislature, as will be seen by the following report made by the committee on railroads, to whom the complaints were referred; and we ask for it a candid perusal, that the saddle may be placed upon the right—*mule?*

Report of the committee on railroads, made Feb. 16, 1846, *in compliance with a resolution of the assembly of the* 2d *inst.*

Mr. Tefft, from the committee on railroads, to which was referred the resolution of the assembly of the 2d of February instant, with power to send for persons and papers, and instructions to inquire into the cause of the refusal of the Albany and West Stockbridge railroad company to transport over their road the mail for the city of New York,

REPORTS:

That in the discharge of their duties the committee deemed it necessary, in order that full opportunity might be given for every explanation which should be deemed important in behalf of the company, or any individuals implicated in its affairs, to address, by way of letter, such persons as were supposed to possess the information sought, and pertinent thereto. The chairman, therefore, addressed to James D. Wasson, postmaster at Albany, a note requesting his personal appearance before the committee, to give such information as he might possess in reference to the subject matter under consideration, to which he readily responded. The facts elicited from the post master are set forth in the subjoined affidavit, No. 1.

On the 6th day of February, Mr. George Bliss, president of the Western railroad company, spontaneously appeared before your committee and submitted the affidavit marked No. 2. On the 9th of February a letter was addressed to Mr. S. Witt, at East Albany, who being absent from his residence, did not appear before the committee until the 14th of February, when he made the deposition marked No. 3.

Your committee have thus completed the investigation submitted to their charge, and they arrive at the conclusions which they have with greater pleasure, as the road in question is distinguished for its punctuality and speed, and attention to the wants of the travelling and business community. The committee offer the following resolution:

Resolved, That the committee on railroads be discharged from the further consideration of the subject.

Testimony accompanying the report of the committee appointed to investigate the circumstances attending the refusal of the Albany and West Stockbridge railroad company to carry over their road the New York mails.

In committee of investigation, February 6, 1846. Present, L. I. Tefft, Chairman, Jas. H. Titus, John T. Bush, William C. Rogers.

George Bliss appeared and made oath to the facts set forth in the affidavit No. 2.

James D. Wasson, post master, Albany, also appeared and made affidavit as No. 1.

(No. 1.)

Affidavit of James D. Wasson.

On or about the tenth of December last, Mr. Hyde, who carries the mail to and from the Albany post office to the depot of the Albany and West Stockbridge railroad at Greenbush, left word at the post office, under the direction of Mr. S. Witt, the agent of this and the Western railroad company, between nine and ten o'clock, P. M., that the United States' mails from this office to the city of New York would not be allowed longer to pass over the railroad, if they were sent to the depot. The mails being then made up, and no other arrangements made to convey them to New York, I requested the mail agent to take them over to the depot, all the mails as usual, on the following morning, and I would accompany him to the depot and urge the necessity of having the mails go forward until I could have more time to prepare to send them by land.

On our arrival in the car-house with the mails, one of their hired men stepped in front of the door of the mail car, and said to the mail agent, Mr. Chadwick, that the New York mails could not be put on board the cars. I inquired of the man under whose authority he acted, he replied the agent, Mr. S. Witt, who was then sent for; I then inquired of Mr. S. Witt by whose authority he acted, in refusing to pass the mails. He took from his pocket, and read a letter from Mr. Bliss, the president of the Western railroad company, directing him not to allow the mails to the city of New York to pass over the road. Mr. Witt said, I must obey the instructions of the president of the company.

I urged the importance to business men of having the mails go forward immediately, and the shortness of the notice upon me; and that the notice to me ought to be at least 24 hours: whereupon Mr. Witt said he would allow them to pass that morning.

I requested Mr. Witt to give me a copy of the letter from Mr. Bliss, to which he assented, but I have not been furnished with it.

On the same day I informed two of the

directors, residents of this city, of the Albany and West Stockbridge railroad company, of the refusal to convey the mail over their road, and was told to send the mail on the following morning, that they would not be refused.

I immediately advised the postmaster general what had taken place, in relation to these mails, and on the 30th December, Mr. Beach commenced taking them by horse power, where they are now being carried, to and from the city of New York.

The railroad company had not refused to take them, *except the time above stated*, up to the time Mr. Beach commenced his contract.

JAMES D. WASSON, P. M.

Albany, Feb. 6, 1846.

Sworn to before me this 7th day of February, 1846.

L. I. TEFFT, *Chairman, committee on railroads in the assembly.*

(No. 2.)

Affidavit of George Bliss.

I, George Bliss, depose and say, that as president of the Western railroad corporation, I have had the sole charge of the negotiations for the U. S. mails on the line of railroads between Albany and Worcester for a year past. That the old contracts for mail service expired July 1, 1845, prior to which time the New York and Albany mails were contracted for by stages. That in the winter of 1845, the stage proprietors made a subcontract with the Housatonic railroad company to carry their New York and Albany mails for them by railroad, there being no contract with the department.

For the new contracts (after July 1, 1845) the department advertised for proposals for the Boston and Albany mails *twice a day*, by railroad; and the New York and Albany mails, by steamboat in summer and by stage in winter; but no proposals were asked for, for services on the Albany and West Stockbridge railroad, independent of the two daily mails between Boston and Albany. Proposals were made by me for the Boston and Albany mail twice a day each way, and they have been regularly carried, though no contract is executed therefor.

The postmaster general, in classifying the railroad mail service under the law of the last congress, specified and required only these two mails between Boston and Albany on this line, and did not classify or require a third mail for the Albany and West Stockbridge railroad.

In December last, under a contract with the Housatonic company, an extra train was put on between the state line and Albany for New York and Albany passengers, not connecting with either train between Boston and Albany. Never, to my knowledge, in any way was this third trip recognized by the department, or treated as a mail line by the postmaster general. The department never, to my knowledge, asked for proposals for a third mail on this line, never requested such service, and never offered any compensation for it.

Notwithstanding, I, on Nov. 17, 1845, wrote the department that if they desired, an extra train might be arranged to carry the New York and Albany mail via New Haven, if they would pay reasonably for it, to which no answer was given having reference to this service.

Again, on Dec. 9–10, 1845, I proposed to the department *terms* for this service, if they desired it performed, either by New Haven or Bridgeport, to which no answer was given alluding to this service, no offer was made for it, and no request to perform it.

When the navigation closed, about Dec. 7, and the extra train started, I observed a notice in an Albany paper of the arrival of a mail from New York by this train, and supposing some mail bag was carried secretly, without the knowledge of the proper authorities, I immediately wrote our agent at Greenbush, Dec. 9, that the mails were not to go in that train, without some contract with the department. But on reflection, I wrote him the next morning to let the mails go along, until we could hear from the department, as I did not wish the business community to suffer. He had not and did not retain or exclude the mails a single trip. On further inquiry, I learned that the postmaster at Albany had sent the mails over to Greenbush to go by this line without instructions from the department, and he requested us to continue them, till he could hear from the department, and they were carried daily for near a month, without a word from the department on the subject. In the mean time, on Dec. 12th, I again wrote the department, to say that should any difference arise as to the terms of the mail service on the Albany and West Stockbridge railroad, we were willing to submit it to arbitration, as provided by law. This was declined on January 9, 1846.

While these mails were thus carried, I, about Dec. 20th, sent by an agent of the Hartford railroad going to Washington, to see if an arrangement could not be made for some compensation for this service, and some regular understanding for the season. That gentleman, on his return reported to me that the department had been negotiating with Mr. Beach for the service by stages, but had suspended it on his arrival; and that the postmaster-general requested him to consult me, and write him on what terms we would unite and carry the New York and Albany mails via New Haven. As soon as I learned of this request of the postmaster general, a proposal was forwarded to him, Dec. 29, that we would carry these mails between New Haven and Albany, six days in the week, for a *pro rata* proportion of the sum it would cost the department to carry them by stages between New York and Albany. And if the department had not a contract with the boats between New York and New Haven, by which they could send these mails (without further pay) no doubt was entertained that an arrangement could be made to include the whole service, from New York to Albany (by New Haven) at the same or a less price than that offered by Mr. Beach. This proposal was not accepted, but the mails were soon after voluntarily taken from the railroad, without any action or request by me, and no request has since been made by the department to carry them on the railroad, and no compensation made or offered, for the time they were so carried. So far as our part of the line is concerned, we are now, and have been quite willing to carry these mails by railroad for a *pro rata* compensation paid for the service by stage, or to leave the matter to arbitration, if desired. I say, then, we never were requested by the department to carry these mails, nor by any one for them, except temporarily by the postmaster at Albany, till the department could be heard from, and on one occasion by the postmaster of New York: that I repeatedly offered to negotiate for them: that the department did not consent, or offer any compensation for the service: that I offered arbitration, as provided by law, and that finally an offer was made to perform the service by railroad on the terms it would cost to do it by stage: that these mails were carried by railroad from the closing of navigation to near the 1st of January, when they were voluntarily transferred to the stages by the department.

GEORGE BLISS.

Sworn to before me this 6th day of February, 1846.

L. I. TEFFT, *Chairman, committee on railroads in the assembly.*

Affidavit of Stillman Witt.

Stillman Witt, of East Albany, being duly sworn, deposes and says: that he is the agent, at East Albany, of the Western, and Albany and West Stockbridge railroad companies: that he received a letter from George Bliss, president of the Western road, stating to him that the said railroad companies had no contract with the post office department to carry the United States' mail; and that it was not proper that it should be carried by railroad, unless some contract was made: that he did refuse, on or about the 11th of December, 1845, at first upon one morning, to let the said mails go by the railroad, but that on the representations of the postmaster at Albany, he consented to let said mails go, and that they did continue to go for several days, until withdrawn by the department itself, and transferred to the stage; and that the said company has never, *for a single day*, prevented the mails from being carried over their road.

And he further deposes and saith, that for the said transportation of the mails, neither the Albany and West Stockbridge or the Western road has received any compensation whatever. And that the said mails were carried over the said roads for nine to thirteen days, but on this point speaks without definite recollection.

S. WITT.

Subscribed and sworn to before me this 14th day of February, 1846.

L. I. TEFFT, *Chairman, committee on railroads in assembly.*

Who will censure the railroad companies, for not carrying the New York mails during the past winter, after reading this report? and who will *not* censure the head of the post office department for his uncourteous inattention to the offers made—and his

entire disregard of the wants of the business community, relying upon the great northern mail during the close of navigation on the Hudson? We only ask that those *deserving* censure may have it awarded to them in the ratio that business men have been made to suffer, by the transportation of the mails between New York and Albany, in stages, during the past winter, while there were two lines of railroad over which it might have been carried, if the postmaster general had been as much disposed to consult the wishes of the public, as he appears to be to control and censure those companies who choose to manage their own affairs.

Correspondents will oblige us by sending in their communications by Tuesday morning at latest.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED BY D. K. MINOR, 23 Chambers street, N.Y.

Saturday, March 28, 1846.

☞ It will be seen by the following advertisement that the N. Y. and Erie railroad company have *reduced* their fares, which will, we doubt not, add much to their passenger receipts. It is the *true course.*

SUMMER ARRANGEMENT.—NEW YORK AND ERIE RAILROAD LINE, from April 1st until further notice, will run daily (Sundays excepted) between the city of New York and Middletown, Goshen, and intermediate places, as follows:

FOR PASSENGERS—

Leave New York at 7 A. M. and 4 P. M.
" Middletown at 6½ A. M. and 5½ P. M.

FARE REDUCED to $1 25 to Middletown—way in proportion. Breakfast, supper and berths can be had on the steamboat.

FOR FREIGHT—

Leave New York at 5 P. M.
" Middletown at 12 M.

The names of the consignee and of the station where to be left, must be distinctly marked upon each article shipped. Freight not received after 5 P. M. in New York.

Apply to J. F. Clarkson, agent, at office corner of Duane and West sts.

H. C. SEYMOUR, Sup't.

March 25th, 1846.

Stages run daily from Middletown, on the arrival of the afternoon train, to Milford, Carbondale, Honesdale, Montrose, Towanda, Owego, and West; also to Monticello, Windsor, Binghamton, Ithaca, etc., etc. Agent on board. 13 tf

Housatonic Railroad.

This road is soon to be re-laid with a heavy edge rail, and thus to be included in the list of good roads. We are gratified to learn that this company have surmounted the difficulties with which it has been surrounded for several years past, and that it may now look forward with confidence to the realization of the benefits which have been anticipated from its construction. A recent, and *first*, visit to the valley of the Housatonic, has given us more correct views in relation to this work than could be formed from the current reports of the day.

It was truly a bold undertaking for a place like Bridgeport—with the probability, almost certainty, that another road would be constructed between it and the Hudson river—to undertake a work of such magnitude; and the only wonder is that they ever carried it through. Yet they did form a connection with the Massachusetts roads at the north, and thus opened a communication between the sound and New York and Albany, very much better than any one which the people of New York had, with all their wealth and enterprize, been able to secure; and we hope they may, as we think they will, yet derive rich returns for their foresight and liberal expenditure.

We recollect well to have heard of the valuable water power of the Housatonic river, but had no just idea—very few, indeed, have—of its extent and availability, until we passed over the railroad a few days since. Of course, a particular examination could not be made when in the cars, and passing at the rate of twelve or fourteen miles an hour; yet we saw enough, and heard of the remainder, to satisfy us that the period is not very far distant when the business along the line, and what it will naturally draw from the adjacent country, and from those roads with which it now connects, as well as from another to be constructed from the Western road at Pittsfield to North Adams, in Massachusetts, now under contract, and from there to Bennington, Manchester, Rutland and Burlington, (Vermont,) which has been surveyed and found to be an exceedingly favorable line. By the time this road is completed, and that period is not distant, the Housatonic company will probably extend their road along the valley of the river to Pittsfield, and thus form a direct connection with the "Western" and the "Western Vermont" road, by which a large amount of traffic will be secured to it, which would otherwise pass down to, and upon the Hudson river, to New York, and over the Western railroad to Boston. The right spirit is moving in relation to the extension of railroads, and the works here alluded to will be among the early ones brought into use; and a few years only are required to make them profitable—especially when the power of the Housatonic is even one-half occupied, as we hope soon to see it.

Western Vermont Railroad.

We called attention in the "Journal" of the 14th instant, to a meeting to be held at Pittsfield, Mass., on the 18th, in relation to it.—The object of this meeting was to receive the report of the engineer, F. HARBACH, Esq., who had been engaged in making the examinations and surveys; and it appeared to us quite a matter of interest to the people of New York, and we suggested the propriety of sending, and took some measures for the appointment of, delegates to the meeting, that our citizens might be informed in relation to the true character of the project; but strange as it may appear to some who do not understand us of New York fully, there was not an individual at the meeting who could speak for, or in behalf of the New York interest. The *Boston* interest, however, was well and ably represented, as it usually is where works to promote the prosperity or the reputation of that noble city are likely to be discussed.

The report of the engineer was made, and proved highly satisfactory to those assembled to receive it. It shows clearly that the route from North Adams to Rutland, passing near Bennington and through Manchester—a distance of a little over fifty miles—is an exceedingly favorable one, having no grades over forty-five feet to the mile, and passing through a fine agricultural region, abounding with *iron*, marble, etc.

The surveys and calculations were made, we understand, with much ease; and the plans and profile were got up in a manner very creditable to the engineer and his assistants, as we can speak from personal observation, having attended the meeting as a looker-on. We ought also to award much credit to the committee, Messrs. Strong, Sargeant, Lyman and Fenton, who caused the surveys to be made and the plans to be prepared, and by whom the meeting was called. *They* have performed their duty faithfully; and if the people along the line, and others interested in the construction of the work—we mean the *people* of New York and Boston, and the Western and the Housatonic railroad companies—will do theirs as faithfully, the work will be speedily completed to Rutland, where it will connect with another road to Burlington and to Montreal—thus becoming a link in a *tri-partite line*, with one terminus at New York, another at Boston, and the third at Montreal, with direct and easy connections with all the other New England and New York railroads.

We were highly gratified to see the spirit which prevailed at the meeting; and from the determination evinced by the gentlemen from Vermont, it is evident that the road *will be built*. It is evident from present indications that, though late in the field in relation to railroads, the people of the Green Mountain state will, in a few years have their full share in use.

As we hope soon to be able to publish the report of the engineer, we omit further notice of the proceeding of the meeting.

English Engineers and their Engagements.—We find in "Herapath's Railway Journal," of December 13th, a list of 116 engineers, with the number of railways on which they are employed. Among others, we find

Sir John McNeill	is	employed	on	37
R. Stephenson	"	"	"	34
J. Lock	"	"	"	31
C. Vignoles	"	"	"	23
Sir J. Rennie	"	"	"	20
I. K. Brunel	"	"	"	14
W. Cubitt	"	"	"	11
J. Gibbs	"	"	"	12
W. Gravatt	"	"	"	10

This shows how far a *name* goes. It is well known that this work is done by others, and that they can only look at the plans and specifications of those who do the work.

For the American Railroad Journal.

Schuylkill County Railroad—No. 3.

In my last No. I gave a brief history of the several roads of the Schuylkill valley, and propose now to review the remaining railroads of this county.

The Little Schuylkill railroad has its source at Tamaqua, a town at the head waters of the Little Schuylkill river, and is about sixteen miles distant from Pottsville, in a northeasterly direction. This road is about twenty-nine miles in length, terminating at Port Clinton, a town on the confines of the county, and about sixteen miles below Pottsville on the line of the Reading railroad. The road is of an inferior quality, having been laid about ten or twelve years ago, when improvements of this kind

were in their infancy. A movement is on foot for the purpose of re-laying the track with heavy iron, and re-grading the road. The Reading railroad company have erected a substantial bridge at Port Clinton, to connect this road with their own. The greater part of the coal from this section of the region formerly was taken down by the canal, but the enterprize of the railroad company will be apt to detract considerably from the business of the canal in future from this point. As the road is not in a good condition, and as horse power is only used, the dealers and transporters have not the same advantages possessed by others, on account of having to re-ship their coal into the Reading railroad cars at Port Clinton. Very superior schutes have been erected by the Reading company for this purpose, and I may say that this is the only point in the coal region where the canal is on an equal footing with the railroad as far as convenience in shipping the coal goes. This road, like all the laterals in this county, (with but one exception,) is graded in favor of the trade, which has a great tendency to cheapen transportation.

The Mount Carbon Railroad.—This road forms a junction with the Reading road at Mount Carbon, At the distance of one mile from its commencement, it branches off into two separate roads, each being four miles in length. This road is one of the oldest in the county, having been laid fifteen years, although in a very inferior manner; and it was not until the Reading road was finished that a good and substantial track was laid. Horse power is used on this road, as it passes through the centre of the town, and the grades are too heavy for the use of locomotives with advantage. This company are doing a profitable business, but as they make no report, the receipts and expenditures are not known.

The Mine Hill and Schuylkill Haven Railroad.—This road has its commencement in Schuylkill Haven, three miles below Pottsville. The principal part of its stock is owned in Philadelphia, and is managed by gentlemen of that city, and is one of the best paying roads in the county, declaring the yearly dividend of 15 per cent, although this is short of their actual receipts, as they are bound by their charter to pay all over that amount into the treasury of the state, which has received from them something over $10,000. Their road is laid with the best quality of iron, and has a double track the whole distance, including the branches, being 19 miles. The road is graded in favor of the trade, the greatest descending grade on the main line being 185 feet to the mile, and the lowest, 10 feet to the mile. The first branch from the main line is called

The West Branch—Being five miles in length, having a double track, and like the main line, kept in good order. The greatest descending grade on this branch is 105 feet to the mile, and the lowest 11 feet to the mile. From this branch springs two other roads, the first called

The Wolf Creek—Which is one mile in length, and under the same management and of the same quality as the other; the grades being 70 feet to the mile for the greater part of the way. And the other branch is called

The Muddy Branch—Which completes the finished branches of the Mine Hill and Schuylkill Haven railroad, being 2½ miles in length, and like the other branches has a descending grade the whole distance.

I have now given you a concise history of all the lateral railroads of this county, and to show the large amount of capital invested in this manner, I give you the aggregate number of miles of railroads which cannot be surpassed by any other county in any other state.

	Miles.
Reading railroad	18·0
Mount and Port Carbon	2·5
Schuylkill valley	9 0
Little Schuylkill	29·0
Mill Creek	4·0
Mount Carbon	9·0
Mine Hill and Schuylkill Haven and branches	19·0
Swatara extension, (unfinished)	7·25
Lorberry	6·0
Good Spring Creek	5·0
	108·75

The above does not include several laterals from three quarters to a quarter of a mile in length—of which I suppose there are some five or six miles. The above valued at $20,000 per mile, which is a fair average cost, would be equal to $2,175,000.

Yours, etc., M.

Broad and Narrow Gauge.

Below we give the report of the commission lately instituted in England to investigate and report upon the relative merits of the broad and narrow gauge for railways, that is to say, of a gauge of *seven* feet, and the *ordinary* gauge of *four feet, eight and one-half inches.* The result is nearly what we anticipated. The commission, in view of the establishment of an uniform width, recommend the adoption of the narrow gauge. In making this recommendation they desire particularly not to be understood as expressing an opinion "that the dimension of 4 feet 8½ inches is in all respects the best suited for the general objects of the country." They state, moreover, that the number of miles of railway in operation in England on the broad gauge is 274, and on the narrow, not less than 1,901, and if an uniformity is to be effected, it can be accomplished at less expense, by reducing the wide gauge to the dimension of the smaller one.

This subject of the best width of gauge was very fully investigated some 4 or 5 years since by the Great Western railroad company, and resulted in a determination to adhere to the wide gauge, and we have seen no evidence of any wish on the part of that company to adopt the narrow width; although from the comparatively limited extent of broad gauge lines, these lines must suffer most from any inconvenience resulting from a difference in the width of track as compared with other lines, which is the great objection urged by the commissioners, and the only one which can be said to possess much force. The attempt on the part of those interested in the narrow gauge lines, to compel, by act of parliament, all new lines to adopt the narrow gauge (and such was evidently the object in instituting this commission,) will we trust not be successful, it being a matter which should be left to the several companies, whose interests being inseparable from those of the public, will lead them to the adoption of the best plan, in the construction of their roads.

The reasons in favor of an adherence to the narrow width, are stronger in England than elsewhere, from the great extent of line already constructed of that width, and the absence of any great necessity for very high speeds in consequence of the limited extent of the country, the longest lines measuring at most but little more than 100 miles, while in this country the case is quite different—speed and accommodation to passengers being a paramount object.

Upon the latter head, that of speed and power, the testimony of the commissioners is very decided in favor of the wide gauge, and indeed it could not be otherwise without contravening the established principles of mechanics. They state that they "are fully satisfied that the average speed on the Great Western, both by the express trains and by the ordinary trains, exceeds the highest speed of similar trains on any of the narrow gauge lines; that, while the Great Western company have not altered in any degree the plan of their engines, the highest velocities on the narrow gauge lines have been attained by the introduction of a more powerful kind of engine than was employed at an earlier period, and probably the new engines now used on the narrow gauge lines are as powerful as they can well be made *within the limits of their gauge*, whereas the broad gauge lines have still a means of obtaining an increase in the power of their engines, and of increasing their speed," etc.

They state moreover, "that the fire boxes boilers etc., of narrow gauge engines still possesses a smaller evaporating power than those of the broad gauge engines, although recent attempts have been made to raise the former to the level of the latter, but those attempts have not succeeded; and it is indisputable that whatever can be done for the narrow gauge, in this respect can be *surpassed* on the broad gauge." This gauge allows also, the use of driving wheels of larger diameter, which is represented to be "unquestionably favorable to high speed both because the steam is used to greater advantage, and because the alternating shocks upon the machinery are less rapid," rendering the "motion more easy at high velocities." On the whole they conclude "that the broad gauge engines possess greater capabilities for speed with equal loads, and generally speaking of propelling greater loads with equal speed; and moreover that the working of such engines is economical when very high speeds are required, or when the loads to be conveyed are such as to require the full power of the engine." The subject is not as ably discussed in the report as we had reason to suppose it would be, since several important considerations are overlooked, and conclusions are drawn in several instances not justified as we think by the premises. We shall give in this number a report on this subject made by E. F. Johnson C. E. sometime since, and propose to follow it in subsequent numbers by such information as we may obtain in order that it may be fully understood.

It is now ten or eleven years since the question of a wide gauge was first agitated, and nearly simultaneously by Mr. E. F. Johnson in this country. Mr. Brunel in England, and DeGerstner on the continent, and without any concert as we are informed on the part of those gentlemen.

The New York and Erie is the only railroad in the northern states having what may be termed a wide track. The width of track on this road is six feet or one foot less than upon the Great Western road in England.

Had the other great lines of road which were started then and since, adopted this width, it would, we have no doubt, have proved greatly to their advantage, as well as conducive to the best interests of the public.

We deem it very fortunate that the New York and Erie railroad, which is destined to be the great main-line of road leading from New York city to the Mississippi valley, and eventually perhaps to the Pacific, has been so far constructed with wide gauge. We are induced to express ourselves more decidedly in respect to this road, as we have heard some ru-

mors that an attempt is to be made to reduce the gauge upon it, which we hope are without foundation.

We have only room this week for the "*general conclusion*" of the commission, viz:—

GENERAL CONCLUSION.

"After a full consideration of all the circumstances that have come before us, and of the deductions we have made from the evidence, we are led to conclude—

"1st. That as regards the safety, accommodation and convenience of the passengers, no decided preference is due to either gauge, but that on the broad gauge the motion is generally more easy at high velocities.

"2dly. That in respect of speed, we consider the advantages are with the broad gauge, but we think the public safety would be endangered in employing the greater capabilities of the broad gauge much beyond their present use, except on roads more consolidated and more substantially ard perfectly formed, than those of the existing lines.

"3dly. That in the commercial case of the transport of goods, we believe the narrow gauge to possess the greater convenience, and to be more suited to the general traffic of the country.

"4thly. That the broad gauge involves the greater outlay, and that we have not been able to discover either in the maintenance of way, in the cost of locomotive power, or in the other annual expenses, any adequate reduction to compensate for the additional first cost.

"Therefore, esteeming the importance of the highest speed on express trains for the accommodation of a comparatively small number of persons, however desirable that may be to them, as of far less moment than of affording increased convenience to the general commercial traffic, we are inclined to consider the narrow guage as that which should be preferred for general convenienee; and, therefore, if it were imperative to produce uniformity, we should recommend that uniformity to be produced by an alteration of the broad to the narrow gauge, more especially when we take into consideration that the extent of the former at present in work is only 274 miles, while that of the latter is not less than 1,901 miles, and that the alteration of the former to the latter, even if of equal length, would be the less costly, as well as the less difficult operation.

"We are desirous, however, of guarding ourselves from being supposed to express an opinion, that the dimensions of 4 ft. 8½ in. is in all respects the most suited for the general objects of the country. Some of the engineers who have been examined by us have given it as their opinion, that 5 ft. would be the best dimensions for a railway gauge; others have suggested 5 ft. 3 in., 5 ft. 6 in., and even 6 ft., but none have recommended so great a breadth of 7 ft., except those who are more particularly interested in the broad gauge lines. Again, some engineers of eminence contend that a gauge of 4 ft. 8½ in. gives ample space for the machinery of the engine and all the railway requirements, and would recommend no change to be made in the gauge.

"We may observe, in reference to this part of the question, that the Eastern Counties railway was originally constructed on a gauge of 5 ft., and has since been converted into a gauge of 4 ft. 8½ in., to avoid a break of gauge; and we have been informed that some lines in Scotland originally on the gauge of 5 ft. 3 in. are about to be altered to 4 ft. 8½ in. for the same reason.

"Whatever might be the preferable course were the question now to be discussed of the gauge for an entire system of railways, where none previously existed to clash with the decision, yet under the present state of things we see no sufficient reason to suggest or recommend the adoption of any gauge intermediate between the narrow guage of 4 ft. 8½ in. and the broad gauge of 7 ft., and we are peculiarly struck by the circumstance, that almost all the continental railways have been formed upon the 4 ft. 8½ in. gauge, the greater number having been undertaken, after a long experience of both the broad and the narrow gauge in this country; nor must the fact be lost sight of, that some of these railways have been constructed as well as planned by English engineers, and amongst that number we find Mr. Brunel, the original projector of the broad guage. Mr. Brunel was also the engineer of the Merthyr Tydvil and Cardiff line, which is on the 4 ft. 8½ in. guage; and we think that the motives which led to his adoption of the narrow guage in that instance would equally apply to many English lines.

We are sensible of the importance, in ordinary circumstances, of leaving commercial enterprize, as well as the genius of scientific men unfettered; we therefore feel that the restriction of a gange is a measure that should not be lightly entertained; and we are willing to admit, were it not for the great evil that must inevitably be experienced when lines of unequal gauges come into contact, that varying gradients, curve, and traffic, might justify some difference in the breadth of gauge. This appears to be the view which Mr. Brunel originally took of the subject; for the Great Western proper, is a line of unusually good gradients, on which a large passenger traffic was anticipated, and as it touched but slightly on any mineral district it embraced all the conveniences and advantages of the broad gauge system, and was comparatively free from the influence of those defects on which we have commented; but such a breadth of gauge, however suitable and applicable it may have originally been considered to its particular district, appears wholly inapplicable, or at least very ill-suited to the requirements of many of our northern and midland lines.

In reference to the branches already in connection with the Great Western railway, we may observe, that the greatest average train on the Oxford branch, for twe weeks in July and October, was only forty-eight tons; on the Cheltenham branch it did not exceed forty-six; between Bristol and Exeter, fifty-three; and between Swindon and Bristol, it was under sixty tons. With such a limited traffic the power of the broad gauge seems beyond the requirements of these districts.

We find, from an estimate furnished to us, and the general grounds of which we see no reason to dispute, that the expense of altering the existing broad gauge to narrow gauge lines, including the alteration or substitution of locomotives and carrying stock, would not much exceed £1,000,000; yet we neither feel that we can recommend the legislature to sanction such an expense from the public moneys, nor do we think that the companies to which the broad gauge railways belong can be called upon to incur such an expense themselves (having made all their works with the authority of parliament), nor even the more limited expense of laying down intermediate rails, for narrow gauge traffic. Still less can we propose, for any advantage that has been suggested, the alteration of the whole of the railways of Great Britain, with their carrying stock and engines, to some intermediate gauge. The outlay in this case would be very much more considerable than the sum above mentioned; and the evil, inconvenience, and danger to the traveller, and the interruption to the whole traffic of the country for a considerable period, and almost at one and the same time, would be such that this change cannot be seriously entertained.

PRACTICAL RECOMMENDATIONS.

Guided by the foregoing considerations, we most dutifully submit to your majesty the following recommendations:

First. That the gauge of 4 ft. 8½ in. be declared by the legislature to be the gauge to be used in all public railways now under construction, or hereafter to be constructed, in Great Britain.

Second. That, unless by the consent of the legislature, it should not be permitted to the directors of any railway company to alter the gauge of such railway.

Third. That in order to complete the general chain of narrow gauge communication from the north of England to the southern coast, any suitable measure should be promoted to form a narrow gauge link from Oxford to Reading, and thence to Basingstoke, or by any shorter route connecting the proposed Rugby and Oxford line with the South-western railway.

Fourth. That as any junction to be formed with a broad gauge line would involve a break of gauge, provided our first recommendation be adopted, great commercial convenience would be obtained by reducing the gauge of the present broad gauge lines to the narrow gauge, of 4 ft. 8½ in.; and we, therefore, think it desirable that some equitable means should be found of producing such entire uniformity of gauge, or of adopting such other course as would admit of the narrow gauge carriages passing, without interruption or danger, along the broad gauge lines.

(Signed)

J. M. FREDERIC SMITH, [L.S.]
Lieut. Colonel Royal Engineers.
G. B. AIRY, [L.S.]
Astronomer Royal.
PETER BARLOW. [L.S.]

Report on the Width Track by E. F. Johnson, 1842.

The width of track, (by which is meant the width in the clear between the inner edges of the rails, or rail plates,) of the majority of railroads in the United States, is *four* $\frac{71}{100}$*ths* feet, or *four feet eight and a half inches.*

The railroads in New-Jersey, are mostly *four feet ten inches* wide. The road leading from Charleston westward into Georgia, is *five* feet wide. The road from New-Orleans northward towards Tennessee, which has been commenced, twenty-four miles of which are completed, has a width of *five* and *one half feet;* and the New York and Erie railroad has a width of track of *six feet*, exceeding in this respect any other railroad in the United States.

In addition to these, the Quincy railroad in Massachusetts, and the Mauch Chunk railroad in Pennsylvania, have a width of track, the former of *five* and the latter of *three* and *one half feet.* The latter roads unlike the others are not designed for the general purposes of trade and travel, being used almost exclusively for the conveyance of granite and coal to the nearest navigation.

As stated above, the majority of railroads in this county, have a width of track of *four feet eight* and *one half inches*, or very nearly that amount, varying in some instances from about four feet eight inches to four feet nine inches. This variation of about $\frac{8}{100}$ths of a foot, may perhaps be attributed mainly to the different views entertained as to the space required for the play of the flanges of the wheels inside of the rails necessary for an easy motion. These variations, are indeed in several instances so great, as nearly or quite to preclude the reciprocal use of cars upon roads designed to be constructed upon the same general standard as to width of track.

The subject of the best width of track for railroads, does not appear to have received from those interested in their construction the attention due to its importance. In the year 1834, the views of the undersigned upon this subject, were made known to the board of directors of the Auburn and Syracuse railroad company, but no greater width than four and three fourths feet was recommended, in consequence of that road constituting but a small portion of the whole line between Albany and Buffalo, one hundred and fifty miles of which were then nearly completed with that width.

In 1836, being then in the service of the New York and Erie railroad company, the undersigned invited the attention of that company to the subject of adopting a width of track exceeding that of the line of road above named, and notwithstanding the grading had been commenced for a track of the ordinary width, a change was subsequently made, and the portions of the New York and Erie rail-

road now completed have a track *six feet wide.*

About this time the Great Western railway in England was commenced, and although the strongest reasons existed in that particular case for an adherence to the ordinary width of track, in consequence of connections with other roads already in operation or building with the narrow width, a track of *seven* feet wide was adopted under the recommendation of the Engineere Mr. Brunel, and it does not appear that the company have had any reason to regret having adopted so great a width.

About this period also, the attention of the late Chevalier DeGerstner, one of the earliest writers upon railways, was directed to the subject, and in arranging a plan for the prosecution of the railroad system in Russia he recommended a width of track of six feet and this width was adopted on the portion of the St. Petersburgh and Moscow railroad, then constructed from St. Petersburgh to Zarsko Selo. This gentleman subsequently visited this country, and examined minutely into the condition and operation of the railroads in the United States, and in conversation with the undersigned, expressed his decided conviction that a width of track of six feet, for railways intended for the general purposes of trade and travel, was the most suitable width that could probably be adopted. Mr. Vignoles, also a gentleman who stands among the first in the profession in England, has recently distinctly stated in a course of lectures delivered by him, that in reference to the gauge of railways "theoretical investigation and practical results led him to consider a six foot gauge the best."

England has the credit of having first resorted to the use of railways for the purposes of transportation. Those first constructed in that country were of limited length, connecting the coal mines with the nearest navigation, being similar in their objects to the Mauch Chunk and Quincy railroads already noticed. They were designed for one species of freight only, moving at low velocities, by the aid of *animal* power. The dimensions of the cars did not therefore vary materially from those of vehicles of the same description in use upon the common roads. Indeed many of the roads mentioned, were of the kind called *tram* roads, and were operated with the same vehicles in use upon the common roads, the guide-flanges being placed upon the rail, instead of the wheels.

As the utility of railways became more manifest, longer lines of communication were established, designed to accommodate both freight and travel, for both of which purposes they were ascertained to be particularly well adapted. When the Liverpool and Manchester railroad was constructed the question of the relative cheapness and efficiency of animal and steam power on railways, had not been experimentally solved. The experiments made on that road in 1829, were conclusive as to the superiority of steam, and it was then first ascertained that a speed exceeding *ten* miles per hour was practicable upon a railway, and that a locomotive steam engine was capable of drawing, upon a level railway, a load equal to *three times* its own weight, or about *twelve* to *fourteen tons!* The width of track of that road is four 71-100ths feet.

The extension of the railway system was attended with a general adherence, as to the width of track, to the standards previously established, owing undoubtedly in a great degree to the facilities thereby afforded of connecting different lines of roads, and using upon each the same carriages and engines.

Other causes may have operated in favor of an adherence to the width of track first adopted: that of the increased expense in particular would undoubtedly be deemed a prominent objection to a wide track.

On the railways first constructed in the United States, and designed for the general purposes of transportation, the standard established on the leading English roads, was in most instances adopted. This was found convenient, as the engines first used were manufactured in England, and were obtained at less expense by conforming to the proportions, and using the same patterns, previously arranged and prepared for the English roads.

Circumstances have since materially changed. The engines manufactured in this country are deemed superior, in power of traction and economy of fuel and repairs, to any that are imported, and they have been constructed for various widths of track, from four 71-100ths feet to six feet, so that the proportions of their several parts, suited to these different widths, are now very correctly understood by our own manufacturers.

With respect to the New York and Albany railroad, the adoption of a track wider than exists on most other roads, will be attended with advantages and disadvantages, which it is proper should be duly considered.

By widening the track, the carriage and its load are supported upon a broader base. Experience has shown the very great difficulty, not to say impracticability, of securing in this climate, a permanent and immoveable foundation to the rails of a railroad, except at an expense not justified by any resulting benefit. Stone blocks of large size, trenches filled with rubble or broken stone, and foundation sills of stone, have all been resorted to, but without attaing the object desired. Wooden piles driven by steam power have also been proposed and in some places adopted. These while they continue in a sound condition, afford a very firm foundation, but their liability to decay and the ultimate greater cost of the road when formed on this plan renders it extremely doubtful whether they can be made available in all cases for securing a firm foundation. The effect of frost upon the foundations of railways is to disturb the adjustment of the rails, causing elevations and depressions which are increased by inequalities in the character of the sub-soil, so that ordinarily without great care and constant attention, it is impossible to preserve a level and even surface to the rails.

The body of a railroad car designed for a track four 71-100ths feet wide, and supported upon four wheels has ordinarily a width of eight to nine feet. The sides of the car therefore, project nearly two feet outside of the rails. A depression or elevation of one of the rails, of a given amount, imparts to the side of the car a vertical movement much greater, the effect of which is to produce irregularity in the motion of the cars and in consequence to increase the resistance. This will be lessened by the adoption of a wider track as will also, in a very considerable degree, the danger of flying the track. It is upon the curved portions of the road that the carriages, or rather the engines are most exposed in this latter respect, arising from the tendency of all bodies in motion to pursue a rectilineal course unless diverted therefrom by some external cause. This cause upon a railway, is the impinging of the flanges of the wheels, particularly those of the engine, against the outward rail of the curve, aided by the greater relative elevation of that rail, and the conical shape which is sometimes given to the rims of the wheels. The danger arising from a possible inefficiency of these causes, is lessened in proportion as the centre of gravity of the load is depressed, or in other words, as the breadth of base or width of track is increased, giving more steadiness of motion, and of course less liability in the cars to leave the track at those points where irregularities exist in the surface of the rails.

With a wider track a more equal bearing of the load upon each wheel will be insured, lessening the maximum pressure upon each, and diminishing in the same degree the liability to fracture of the journals and wheels: since, under any given depression or irregularity of the rails, the consequent thrust or strain occasioned by the centre of gravity of the load being thrown to one or the other side of the track will be less. By giving to the body of the car also greater steadiness of motion, reducing the lateral movement produced by the irregularities in the rails, the comfort of the traveller will be greatly increased.

Upon the railways first constructed, cars supported upon four wheels were used.—These are now giving place, for the conveyance of both freight and passengers, to carriages of a larger size supported by eight wheels, formed by placing a long body capable of accommodating fifty to eighty passengers, upon the running parts of two four wheel cars. To preserve the body of the car at a suitable elevation above the track, keeping the centre of gravity within such a distance as not to cause too much unsteadiness to the motion, the wheels are usually lessened in diameter from their ordinary size of *three* feet to *two* feet, or two feet *six* inches. This of course by diminishing the ratio between the diameters of the journals and wheels, lessens the leverage by which the friction is overcome in the same proportion, requiring more power to communicate motion to the cars.

If for a track six feet wide, the wheels are increased in size in proportion, there will result an increase in the leverage for overcoming the friction at the journals, of about *twenty-seven* per cent, and the axles will have a greater elevation above the rail of about five nches, the motion being equally steady.—The resistance presented by friction to the

motion of the car, is in proportion, or very nearly so, to the insistent weight. In computing this resistance, the weight only of the body of the car and its load, or that portion which bears upon the journals, is considered. The wheels and their axles forming one half or one third of the weight of the car when empty, and nearly one sixth of the car and its load, do not by any increase of weight arising from an increase of size add materially to the resistance. The resistance encountered by the latter setting aside that of the atmosphere, proceeds from the dust on the rails and the inequalities of their surface. This is less with larger wheels. The total amount of this resistance for a given weight for wheels three feet in diameter, is only a moity of the resistance under the same weight, from friction at the journals. An addition of five pounds to the weight of the wheels and axles, will not probably cause as much resistance to motion as the addition of one pound to the body of the car and its load. *Any increase, therefore, in the size an dweight of the wheels or of the axles, consequent on a wider track, to impart the same degree of strength, will not add materially to the resistance to be overcome by the motive power.*

Although, as stated above, the resistance from friction at the axles is lessened by enlarging the diameter of the wheel, yet for the eight wheel cars, (the kind which will be mast used,) it is not probable that it will be found expedient to exceed the diameter of three feet for a track as wide as *six* feet. This will cause a saving of resistaece compared with the wheels now in use for cars of that description on roads of the narrow width, of from *sixteen* to *twenty* per cent. The addition to the weight of axles for a track six feet wide as compared with one of four 71-100ths feet, will be about *thirty-three* per cent, or *forty pounds* to each axle to give the same strength, equal at the present price of iron, (1842,) to an increase in the cost of each axle of *five* to *seven* dollars.

In my remarks thus far, I have supposed the dimensions of the carriages to remain the same as now used on a track four 71-100ths feet wide. With a track six feet wide, the motion will be equally steady as upon the narrow track, if the width of the car is increased to ten or eleven feet. This will render the cars much more commodious for passengers and better adapted for the conveyance of all descriptions of freight, particularly of bulky articles, such as hay, cotton, seasoned lumber, furniture, barrels, cattle on the hoof, sheep, hogs, etc.

When the articles conveyed are so light and bulky as to render it necessary with a view to safety to restrict the load below the weight which is capable of being born by each car, a loss of power must ensue, since the weight of the carriages will then constitute a much larger portion of the gross load. A single car with four feels and weighing about one and one half tons, as they are ordinarily constructed, is capable of conveying three and one half tons nett weight. If in consequence of the light or bulky character of the lading, it should become necessary to limit the nett load to one and one haif or two tons, there is evidently a large per centage lost in the conveyance of the extra weight of the carriage.

In the former case, the weight of the are is *forty-three* per cent of the nett load, in the latter, *seventy-five* to *one hundred* per cent.—making a difference of *thirty-two* to *fifty-seven* per cent., which loss is increased by the increased resistance arising from the addition, which, from the small capacity of the cars, it may be necessary to make to the number of cars in the train. A similar loss will occur when in consequence of the peculiar shape of the articles conveyed, and narrowness of the carriage, the load cannot be compactly arranged, so as to occupy the least possible space.

Those who are conversant with the business of lading and unlading merchandize, furniture, etc., know how much superior a width of ten or eleven feet is to a width of eight or nine feet. They know also how important it is often that boxes and other articles should be placed in particular positions for safe conveyance, and can readily appreciate the advantages derived from wider carriages in disposing a load to the best advantage.

If by the use of wider cars the number of tons which an engine can convey, can be arranged into a shorter train, less resistance will be experienced on the curved portions of the road, and there will also be less resistance from the atmosphere. Experiments indicate that the amount of atmospheric resistance is less, or rather that its effect upon the motion of the cars is less, upon the front or traverse section of a railway train than upon the sides. When the atmosphere is in motion, the oblique or side winds have a tendency to force the flanges of the wheels against the rails, and to cause more resistance than an opposing wind directly in front. The greatest speed practicable being important on the New York and Albany railroad, and the atmospheric resistance increasing rapidly under the higher velocities, any arrangement that shall serve to lessen that resistance is an object. It is a very great object also to have cars of such dimensions and so commodious as that passengers may not be confined to one position, but may move about and amuse themselves in various ways, with ample space for rest and sleep, enjoying all the comforts of a parlor in a hotel, or a saloon in a steamboat. These conveniences and comforts, it is quite certain, cannot be secured so perfectly when the cars are only eight or, at most, nine feet wide, as they can be under a width of ten or eleven feet.

One of the more prominent of the advantages resulting from a wider track, remains to be noticed. It consists in the greater economy and efficiency with which steam can be used as an impelling power.

Much inconvenience has hitherto been experienced from the narrowness of the track on most railroads, in consequence of the space being insufficient for the required dimensions and arrangement of the parts of the engine.

(To be continued.)

Increase of Traffic on Railroads.

The increase of business resulting from the construction of railroads is not generally duly appreciated. We know that, in every case where a railroad has been constructed, and properly managed, in this country, the travel and the trade of the region *from* and *to* and *through* which it passes has increased immensely; yet so imperfectly have the "traffic returns" been given to the public that very few indeed are aware of the rapidity of the increase. In England it appears to be the practice of the companies generally to furnish weekly returns of their business for publication, but in this country it is, in most cases, entirely different—the effort seems to be to prevent such publication. This, to say the least of it, we consider well an unwise policy; as it is now demonstrated that the more railroads in use the better the *average* business—and the greater the aggregate receipts, therefore those now in use are to be benefitted by every extension of the system, and the system will be extended just in proportion to the knowledge which the people have of its advantages, and its success. Can this knowledge be more easily, and more thoroughly disseminated than by placing before them regularly, in weekly or monthly statements the amount of business performed by them? It seems to us not, and we are fully sustained in our opinions by the practice of all the English railways, as will have been seen by the tabular statement in our last number, and also in the short historical sketch of the London and Birmingham railway in this number.

There are some features of this sketch worthy of note; and first the great difficulty of obtaining a charter for it. The first efforts were made in 1823, yet none was granted until 1833, or *ten* years after, such were some of the difficulties thrown in the way of railways by ignorance and prejudice, even in the parliament of Great Britain, as well as in the city of London and town of Manchester; yet it will be seen that within eight years from the date of it being opened, the annual receipts exceeded by £226,566, the estimates of its early friends. The receipts were £195,864, and the number of passengers carried about 192,000, during the first six months after it was opened for use, according to the first simi-annual report, and according to the 15th simi-annual report, or at the end of seven and a half years the number of passengers had increased to 480,637 and the receipts to £450,478, or, including freight receipts, very nearly 19 shillings per passenger.

At the commencement of the eighth year the *rates* of *fare* were reduced and the rates of speed increased about the same time by which the number of passengers were increased to 615,904 while the receipts remained about the same, and indeed fell off £3,300. Yet they were able to divide *ten per cent* among the stockholders on the stock; but the sketch above alluded to, from the London Railway Chronicle will illustrate our views more clearly than anything we can say ourselves.

London and Birmingham Railway.

This most important railway had many struggles for its existence. In the present state of public demands for railway, its history seems almost fabulous. A railways between London and Birmingham was projected in 1823: a company was formed, and shares were issued, but the project *was refused by parliament.* In April 1826, Sir John Rennie reported in favor of a line intended to pass near to Oxford and Banbury; but this, too, came to nothing. A different line through Coventry was then proposed by Mr. Francis Giles, and in 1829 rival companies for each of these lines were started, but ultimately amalgamated. Mr. Giles' line, newly surveyed by Mr. George Stephenson, was selected and submitted to parliament in 1832: the *house of lords threw out the bill.* Fresh application was made to parliament in 1833, and London and Birmingham, after 10 year's suspense, were at last united by railway, and

the necessary act of the legislature received the royal assent in the May of that year.

It was estimated that the railway would take four years to make, and this expectation was only exceeded by four months. The average rate of progress in its construction was one mile in every fortnight. The works were begun on the 21st of April, 1834. Many difficulties arose: the cuttings at Triang and Blisworth, the Kilsby tunnel and the embankment at Wolverton, frightened the contractors, who abandoned their contracts, as well in these places as at Primrose hill, Rugby, and at Brandon. All obstacles at last were overcome, and the railway between London and Boxmoor was opened on the 20th July, 1837; and on the 17th September, 1838, the whole line of railway was opened. The preliminary expenses, before obtaining the act of parliament, amounted to £72,868 18s. 10d. The estimated cost of the line was under two millions and a half, the income calculated at £671,102 per annum. The capital of the company has been gradually increased to seven millions. The receipts for the first six months after the opening were £195,864, which were rapidly increased. The following shows the progress of the traffic since the line was fairly in operation, up to the last year before the amalgamation with the Grand Junction took place:—

Six months ending	Passengers.	Miles Travelled.	Receipts.
June 30, 1839.....	267,144	17,391,035	£270,241
Dec. 31, 1839.....	341,420	22,284,830	343,910
June 30, 1840.....	327,930	21,675,287	343,194
Dec. 31, 1840.....	394,688	35,931,163	405,040
June 30, 1841.....	354,322	23,399,936	382,452
Dec. 31, 1841.....	413,272	27,156,212	429,023
June 30, 1842.....	372,532	24,144,243	388,288
Dec. 31, 1842.....	407,840	26,563,216	420,958
June 30, 1843	360,784	23,395,261	385,104
Dec. 31, 1843.....	419,963	26,983,482	432,357
June 30, 1844.....	371,331	24,664,979	405,768
Dec. 31, 1844.....	480,637	31,122,185	450,478
June 30, 1845.....	615,904	38,758,260	447,190

Thus the annual revenue for the last year ending June 30, 1845, in ten years has exceed the estimate by £226,566 or 35 per cent. The prosperity of the company is still advancing, or to speak more correctly, it should be said the public continue to receive the chief advantages of the prosperity by the great reduction of fares and increased accommodation. The *original* proprietors are content to receive only their ten per cent. on their investment, and all the surplus profit is virtually returned to the public. And this arrangement, which is almost singular in commercial or political affairs, is called a *monopoly!*

The traveller who now passes between London and Birmingham in three hours for twenty shillings, in luxurious comfort, may like to have the locomotion of the past and the present contrasted. An advertisement in 1742, announced that a good coach and able horses would travel from London through Birmingham to Litchfield, leaving London on Monday morning early, and arriving at Litchfield to dinner on Wednesday. In 1801 a light four-horsed coach made the journey in sixteen hours. By the mail in 1838, the journey occupied ten hours. It is now done in three, and might be in two hours!

Morris Canal Company.—John J. Palmer and Zebedee Cook, of New York, and D. S. Gregory, of Jersey City, have been chosen trustees of the mortgage fund, which the directors have concluded to raise to $700,000 instead of $500,000, as was the intention when the circular, which we have heretofore noticed was issued.

Better make it a *million* while about it.—[Ed. R R. J.]

A bill has passed the lower house of the Virginia legislature by a decided majority, directing the sale of the Portsmouth and Roanoke railroad.

Providence and Worcester railroad.—We are informed that the contracts for the whole line of the road from this city to Worcester, were given out on Friday afternoon.

Michigan railroad sale.—The bill to authorize the sale of the Central railroad, passed the Michigan house of representatives on the 4th, by the very decisive vote of 41 to 9. It has now to undergo the more dubious ordeal of the senate; but we hope it may be successful there and become a law.

From a report of the finance committee in the senate, says the Journal of Commerce, it appears that the recognized indebtedness of Michigan will amount on the 1st of January next, to $5,022,084 40. There is besides a contingent liability, amounting to $2,755,351 97. The sum of $1,235,829 18, will be due and payable in the course of the present year.—If the sum of $2,000,000 is obtained for the railway, the state will be able to pay that amount without inconvenience.

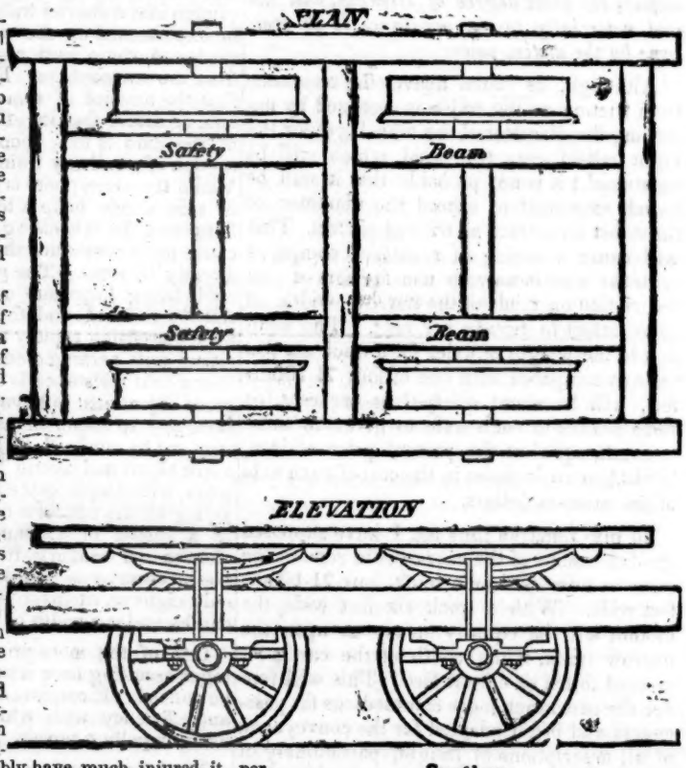
OFFICE OF THE NEW YORK AND ERIE RAILROAD CO., No. 50 Wall street.—New York, March 19th, 1846.—Notice is hereby given, that proposals will be received until the 10th day of April next, for the Grading, Masonry and Bridging required to complete the Newburg Branch of the New York and Erie Railroad, extending from Chester depot in Orange county, to the village of Newburgh, a distance of about 18 miles.

The maps and profiles, estimates and specifications, are in the office of the company, in the village of Newburgh, where all necessary information will be given, either by the subscriber or by Messrs. SILAS SEYMOUR and L. J. STANDIFF, Civil Engineers.

The work will be divided into sections, averaging a mile in length, and proposals will be received either at Newburgh or in the city of New York, for grading the whole or any part.

By order of the President and Directors.
T. S. BROWN, Chief Engineer.
12 3t

KITE'S PATENT SAFETY BEAM.



Messrs. Editors.—As your Journal is devoted to the benefit of the public in general I feel desirous to communicate to you for publication the following circumstance of no inconsiderable importance, which occurred some few days since on the Philadelphia, Wilmington and Baltimore railroad.

On the passage of the evening train of cars from Philadelphia to this city, an axle of our large 8 wheeled passenger car was broken, but from the particular plan of the construction, the acciden was entirely unknown to any of the passengers, or, in fact, to the conductor himself, until the train, (as was supposed from some circumstances attending the case,) had passed several miles in advance of the place where the accident occurred, whereas had the car been constructed on the common plan the same kind of accident would unavoidably have much injured it, perhaps thrown the whole train off the track, and seriously injured, if not killed many of the passengers.

Wilmington, Del., Sept. 28, 1840.

☞ The undersigned takes pleasure in attesting to the value of Mr. Joseph S. Kite's invention of the Safety Beam Axle and Hub for railroad cars. They have for some time been applied to passenger cars on this road, and experience has tested that they fully accomplish the object intended. Several instances of the fracture of axles have occurred, and in such the cars have uniformly run the whole distance with entire safety. Had not this invention been used, serious accidents must have occurred.

In short, we consider Mr. Kite's invention as completely successful in securing the safety of property and lives in railroad travelling, and should be used on all railroads in the country.

JOHN FRAZER, Agent,
GEORGE CRAIG, Superintendant,
JAMES ELLIOTT, Sup. Motive Power,
W. L. ASHMEAD, Agent.

☞ A model of the above improvement is to be seen at the New Jersey railroad and transportation office, No. 1 Hanover st., N. York. ja45

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co, Boston. ja45

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York, will be punctually attended to.

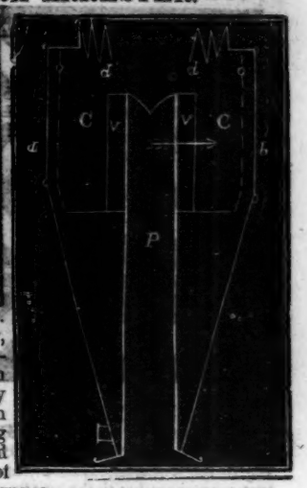
HENRY BURDEN, *Agent.*

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.



TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved SPARK ARRESTER, recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger and freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

E. A. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

BENTLEY'S PATENT TUBULAR STEAM BOILER. The above named Boiler is similar in principle to the Locomotive boilers in use on our Railroads. This particular method was invented by Charles W. Bentley, of Baltimore, Md., who has obtained a patent for the same from the Patent Office of the United States, under date of September 1st, 1843—and they are now already in successful operation in several of our larger Hotels and Public Institutions, Colleges, Alms Houses, Hospitals and Prisons, for cooking, washing, etc.; for Bath houses, Hatters, Silk, Cotton and Woollen Dyers, Morocco dressers, Soap boilers, Tallow chandlers, Pork butchers, Glue makers, Sugar refiners, Farmers, Distillers, Cotton and Woollen mills, Warming Buildings, and for Propelling Power, etc., etc.; and thus far have given the most entire satisfaction, may be had of D. K. MINOR, 23 Chambers st. New York.

The article is complete in itself, occupies but little space, is perfectly portable, and requires no brick work, not even to stand upon. It is valuable not only in the saving of time and labor, but in the economy of fuel, as it has been ascertained by accurate measurement, that the saving in that article is fully two-thirds over other methods heretofore in use. They are now for the first time introduced into New York and Boston by the subscriber, who has the exclusive right for the New England states, New York and New Jersey, and are manufactured by CURTIS & RANDALL, Boston; and by FORCE, GREEN & CO. New York.

LARD OIL FOR MACHINERY, ETC.—Winter pressed, cleansed from gum, and manufactured expressly for engines and machinery of all kinds, railroads, steamboats, woollen and other manufactures, and for burning in any lamp without clogging the wick. Engineers of railroads and others who have used this oil, and to whom reference can be made, give it preference over the best sperm for its durability, and not requiring to be cleaned off like that, and costing about two-thirds the price. For sale by the barrel, and samples can be sent for trial, by addressing C. J. F. BINNEY,

Agent for the Manufacturer,

11 eop 1m Boston, Mass.

FLAT BAR, ENGLISH ROLLED, RAILroad Iron, 2½ ⋈ ½—a large part suitable to relay. For sale by C. J. F. BINNEY,

Commission Merchant, 1 City Wharf,

11 1m Boston, Mass.

Dividend.—The New Haven and Hartford railroad have declared a semi-annual dividend of three and a half per cent., payable on the first of April.

☞ At a meeting of the board of the Morris Canal company on Wednesday, Benjamin Williamson, Esq., was elected president.

RAILROAD IRON. 500 TONS HEAVY T Rails, of an approved parttern, expected to arrive here during March, or early in April.

Apply to DAVIS, BROOKS & CO.

March 5, tf 30 Wall street.

ENGINEERS' AND SURVEYERS'

INSTRUMENTS MADE BY

EDMUND DRAPER,

Surviving partner of

STANCLIFFE & DRAPER.

No 23 Pear street, near Third, below Walnut, Philadelphia.

NOTICE TO CONTRACTORS. PROposals will be received at Bridgeport, until the 20th of March next, for re-laying the Housatonic railroad with an H rail.

Specifications will be furnished at the office of the undersigned, in Bridgeport, on and after the 20th February. R. B. MASON, *Engineer.*

Bridgeport, February 4, 1846. 8 5t

RAILROAD IRON.—The subscriber having taken contrats for all the Railroad Iron he can manufacture at his Iron Works at Trenton, until July next, will gladly receive orders for any quantity to be delivered after that time, not exceeding thirty tons per day. Also has on hand and will make to order Bar Iron, Braziers' Rods, Wire Rods and Iron Wires of all sizes, warranted of the best quality. Also manufactures and has on hand Refined American Isinglass, warranted equal in strength to the Russian. Also on hand a constant supply of Glue, Neats' Oil, &c. &c.

PETER COOPER, 17 Burling Slip.

New York, January 23d, 1846. 1y 10

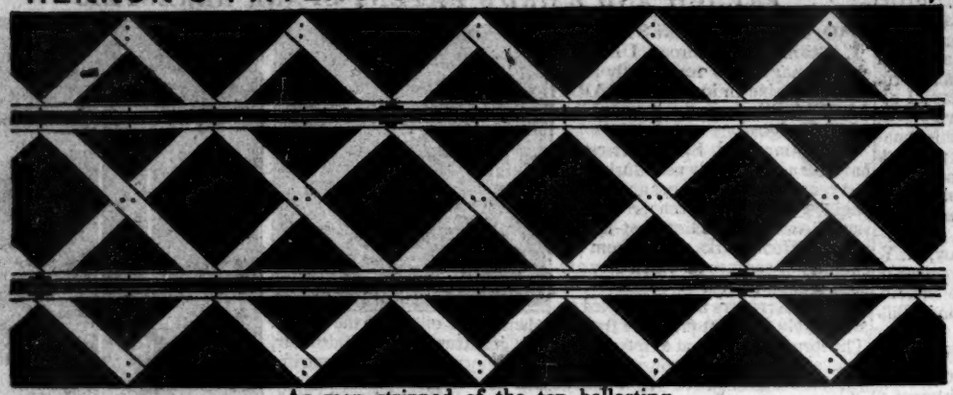
LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value tor Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,

142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

HERRON'S PATENT AMERICAN RAILWAY TRACK,



As seen stripped of the top ballasting

HERRON'S IMPROVEMENTS IN RAILway Superstructure effect a large aggregate saving in the working expenses, and maintenance of railways, compared with the best tracks in use. This saving is effected—1st, Directly by the amount of the increased load that will be hauled by a locomotive, owing to the superior evenness of surface, of line and of joint. This gain alone may amount to 20 per cent. on the usual load of an engine.—2d, In consequence of the thorough combination, bracing, and large bearing surface of this track, it will be maintained in a better condition than any other track in use, at about one-third the expense.—3d, As action and reaction are equal, a corresponding saving of about two-thirds will be effected in the *wear* and *tear* of the *engines* and *cars*, by the *even surface* and *elastic structure* of the track.—4th, The great security to life, and less liability to accident or damage, should the engine or cars be thrown off the rails.—5th, The absence of jar and vibration, that shake down retaining walls, embankments and bridges.—6th, The great advantage of the high speed that may be safely attained, with ease of motion, reduction of noise, and consequently increased comfort to the traveller.—7th, The really *permanent* and perfect character of the Way, insuring regularity of transit. To which may be added the great increase of travel, that would be induced by the foregoing qualities to augment the revenue of the railroad.

The cost of the Patent track will depend on the quantity and cost of iron and other materials; but it will not exceed, even including the preservation of the timber, the average cost of the tracks on our principal railroads. Generally, the timber structure, fastenings and workmanship, exclusive of the cost of the iron rails, will be from $2,300 to $4,000 per mile. On this structure, rails of from 40 to 50 lbs. per yard, will be equal in effect to 60 and 70 lbs. rails laid in the usual way. The proprietors of a road, furnishing approved materials in the first instance, the undersigned will construct the track on his plan in the most perfect manner, with recent improvements, for one thonsand dollars per mile. And he will farther contract to maintain said track for the period of ten years, furnishing such preserved timber and iron fastenings as may be required, and keeping said track in *perfect adjustment*, under any trade not exceeding 100,000 tons per annum, or its equivalent in passenger transportrtion, for *Two hundred dollars per mile per annum.** To insure the faithful performance of this contract, he will pledge one-fourth of the cost of construction, with the accruing interest thereon, regularly vested, until the completion of the contract. So that a company, by securing payment to the undersigned at the specified period, will have only $750 per mile to pay for the workmanship on the track, without any charge being made for the use of the patent, the subsequent payments, for maintenance of way, and amount withheld, being made from the large margin of profits that will result from its use.

JAMES HERRON.
Civil Engineer and Patentee.
No. 277 South Tenth St., Philadelphia.

* A general average of the repairs done on six of the most successful railroads in this country, for a period of from six to eight years' use has been found to exceed $625 per mile per annum, exclusive of renewal of rails. But few roads in this country carry as much as 100,000 tons per annum. When a road exceeds that quantity, the repairs due to the additional tonnage, up to 200,000 tons, will be charged at one mill per ton; over the latter, and not exceeding 300,000 tons, nine-tenths of a mill, etc. Where there are two tracks to maintain, a large reduction upon those rates will be made. 1y1

W. R. CASEY, CIVIL ENGINEER, NO. 23 Chambers street, New York, will make surveys estimates of cost and reports for railways, canals, roads, docks, wharves, dams and bridges of every description. He will also act as agent for the sale of machinery, and of patent rights for improvements to public works.

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,

Warehouse S. E. corner 3d and Walnut Sts., Philadelphia 1tf

C. J. F. BINNEY,

GENERAL COMMISSION MERCHANT and Agent for Coal, and also Iron Manufactures, etc.

No. 1 City Wharf, Boston.

Advances made on Consignments.

Refer to Amos Binney, *Boston.*
Grant & Stone, Brown, Earl & Erringer, Weld & Seaver, } *Philadelphia.*
Baltimore.

December 8, 1845. 1m 50

SCRIBNER'S ENGINEERS' AND MEchanics' Companion. For sale at this office. Price $1·50.

A. & G. RALSTON & CO., NO. 4 South Front St., Philadelphia, Pa.

Have now on hand, for sale, Railroad Iron, viz:
180 tons 2½ x ½ inch Flat Punched Rails, 20 ft. long.
25 " 2½ x ½ " Flange Iron Rails.
75 " 1 x ½ " Flat Punched Bars for Drafts in Mines. A full assortment of Railroad Spikes, Boat and Ship Spikes. They are prepared to execute orders for every description of Railroad Iron and Fixtures. 1tf

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent,*
Albany Iron and Nail Works,
1 1y Troy, N. Y.

RAILROAD IRON WANTED. WANted, 50 tons of Light Flat Bar Railroad Iron. The advertisers would prefer second-hand iron, if not too much worn. Address Box 384 Philadelphia P. O.—Post paid. 8 4t

PROVIDENCE AND WORCESTER Railroad.—Notice to Contractors.

The Route of this Road will be prepared for Examination by Contractors on the 16th of February, and Proposals for the Graduation, Masonry, Bridges, Timber, Spikes, Chains, etc., will be received after that date, untill the 25th of February.

Blank Proposals, with Specifications attached, may be obtained, and the Profiles examined, at the offices in Worcester and Providence, after the 16th of February.

T. WILLIS PRATT,
5 4t *Engineer.*

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by

JOHN A. ROEBLING, *Civil Engineer,*
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 2v19 1y

BACK VOLUMES OF THE RAILROAD JOURNAL for sale at the office, No. 23 Chambers street.

THE AMERICAN RAILROAD JOURNAL is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

RATES OF ADVERTISING.

One page per annum	$125 00
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One page per month	20 00
One column "	8 00
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One column " "	3 00
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Professional notices per annum	5 00

ENGINEERS and MACHINISTS.

J. F. WINSLOW, Albany Iron and Nail Works, Troy, N. Y. (*See Adv.*)
TROY IRON AND NAIL FACTORY, H. Burden, Agent. (*See Adv.*)
ROGERS, KETCHUM AND GROSVENOR, Patterson, N. J. (*See Adv.*)
S. VAIL, Speedwell Iron Works, near Morristown, N. J. (*See Adv.*)
NORRIS, BROTHERS, Philadelphia Pa. (*See adv.*)
KITE'S Patent Safety Beam. (*See Adv.*)
FRENCH & BAIRD, Philadelphia, Pa. (*See Adv.*)
NEWCASTLE MANUFACTURING COMPANY, Newcastle, Del. (*See Adv.*)
ROSS WINANS, Baltimore, Md.
CYRUS ALGER & Co., South Boston Iron Company.
SETH ADAMS, Engineer, South Boston.
STILLMAN, ALLEN & Co., N. Y.
JAS. P. ALLAIRE, N. Y.
H. R. DUNHAM & Co., N. Y.
WEST POINT FOUNDRY, N. Y.
PHŒNIX FOUNDRY, N. Y.
R. HOE & Co., N. Y.
ANDREW MENEELY, West Troy.
JOHN F. STARR, Philadelphia, Pa.
MERRICK & TOWNE, do.
HINCKLEY & DRURY, Boston.
C. C. ALGER, Stockbridge Iron Works, Stockbridge, Mass.
BALDWIN & WHITNEY, Philadelphia, Pa.
THOMAS & EDMUND GEORGE, Philadelphia. (*See Adv.*)